

August 31, 1987

1987-88

# Brandeis University Bulletin

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Graduate  
School of Arts  
and Sciences

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1987-88      Brandeis University  
Waltham, Massachusetts

Graduate School of  
Arts and Sciences

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Section 2B of Chapter 151C of the Massachusetts General Laws provides that: "Any student [ ... ] who is unable, because of his religious beliefs, to attend classes or to participate in any examination, study, or work requirements on a particular day shall be [so] excused . . . , and shall be provided with an opportunity to make up such examination, study, or work requirement which he may have missed because of such absence on any particular day; provided, however, that such makeup examination or work shall not create an unreasonable burden upon such school. No fees of any kind shall be charged . . . for making available to the said student such opportunity. No adverse or prejudicial effects shall result to any student because of his availing himself of the provisions of this section."

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It is the policy of Brandeis University not to discriminate against any applicant on the basis of race, color, religion, sex, sexual or affectional preference, age, national origin, veteran or disability status. The University operates under an affirmative action plan and encourages minorities and women to apply, both in terms of employment and to all the rights, privileges, programs, and activities generally accorded or made available to its students. Inquiries concerning discrimination may be referred to the Assistant to the President for Affirmative Action, Grymnish Building, Brandeis University and/or to the Director, Office for Civil Rights, U.S. Department of Education, Washington, D.C.

Programs, requirements, fees and other information are set forth herein as they exist at the date of this publication. Brandeis University reserves the right to make changes without notice.

# 1987-1988 Academic Calendar

## Fall Term

Tuesday	September 1	Returning students register. Fees are payable in full at this time. Students who register later will be fined \$10.	Monday	December 14	Study day.
Wednesday	September 2	New students register. Fees are payable in full at this time. Students who register later will be fined \$10.	Tuesday through Tuesday	December 15 December 22	Examination period. Winter Recess begins after last examination.
Thursday	September 3	Opening day of instruction in courses.	Monday	January 4, 1988	Fall Term grades due and Incompletes from Spring Term 1987. Final day for faculty certification that February master's candidates have completed degree requirements, including language(s) and theses, and that Ph.D. candidates have defended dissertations. Final day for February degree candidates to discharge any financial indebtedness to the University.
Monday	September 7	No University Exercises.			
Friday	September 18	Final day for filing Study Cards. No program changes for Fall Term may be made after this date.			
Thursday and Friday	September 24 and September 25	No University Exercises.	Friday	January 8	Final day for admission to candidacy and for completion of language requirements for students expecting to earn the Ph.D. in May 1988. Final day for February doctoral candidates to deposit dissertations at the Graduate School Office.
Thursday	October 8	No University Exercises.			
Tuesday	October 13	Brandeis Thursday. Thursday class schedule in effect.			
Thursday	October 15	No University Exercises.			
Wednesday	November 25	Brandeis Thursday. Thursday class schedule in effect.			
Thursday and Friday	November 26 and November 27	No University Exercises.			
Friday	December 11	Last day of Instruction.			

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# 1987-1988 Academic Calendar

## Spring Term

Friday	January 22	Registration for students entering Spring Term. Registration procedures begin for returning students.	Tuesday through Tuesday	April 1 April 8	Spring Recess.
Monday	January 25	First day of instruction in courses.	Monday	April 18	Final day for faculty certification that May Ph.D. candidates have defended dissertations.
Friday	February 5	Last day for filing Study Cards. No program changes may be made after this day.	Wednesday and Thursday	May 11 May 12	Final day for May degree candidates to discharge any financial indebtedness to the University.
Tuesday	March 1	Final day for filing Application for Financial for 1988-89.	Friday through Friday	May 13 May 20	Study days.
Monday through Friday	March 7	Mid-term Recess.	Tuesday	May 17	Final examination period.
Monday	March 11				
Monday	March 14	Last day for May degree candidates to submit drafts of these and dissertations to department chairs and to file Application for Degree with Graduate School Office.	Monday	May 23	Final date for May doctoral degree candidates to deposit dissertations at the Graduate School Office.
Friday	April 1	Final day for master's candidates to complete foreign language requirement(s) for May degree. Final day for completion of language requirements for students expecting to earn the Ph.D. in February 1989.	Sunday	May 29	Grades due for all degree candidates no later than 10 a.m. Final day for faculty certification that master's candidates theses have been accepted.
			Tuesday	May 31	Commencement. All Spring Term grades due and Incompletes from Fall Term.

## Brandeis University

Founded in 1948, Brandeis University is recognized as one of the finest private liberal arts universities in the United States. It received accreditation within five years, the shortest possible time, and was awarded recognition by Phi Beta Kappa in 1961, only 13 years after founding—the youngest institution so honored in over 100 years. It is the only Jewish founded, nonsectarian institution of higher learning in America and was named for United States Supreme Court Justice Louis Dembitz Brandeis (1856-1941).

Of the approximately 2,000 accredited colleges and universities in the nation, Brandeis is one of only 100 recognized as research universities. As such, Brandeis combines the breadth and range of academic programs usually found at much larger universities with the intimate educational atmosphere of an undergraduate college.

Brandeis University is accredited by the New England Association of Schools and Colleges, Inc. Originally accredited in 1953, Brandeis was approved in 1977 for continuing membership in the Association for 10 years, the maximum period permissible.

A Brandeis education encourages personal fulfillment, but only within the framework of social responsibility. Equipped by a liberal arts education, the individual sees reality as a whole with many intricately connected parts. That individual rejects the idea that there is only one truth, one perspective, one redeeming set of values. Study of the arts and sciences is a time of inquiry, honest skepticism and evolution of the intellect.

For full information on the undergraduate curriculum, see the Bulletin of the College of Arts and Sciences.

Brandeis University is a community of scholars and students united by their commitment to the pursuit of knowledge and its transmission from generation to generation. As a research university, Brandeis is dedicated to the advancement of the humanities, arts, social, natural and physical sciences. As a liberal arts college, Brandeis affirms the importance of a broad and critical education in enriching the lives of students and preparing them for full participation in a changing society, capable of promoting their own welfare, yet remaining deeply concerned about the welfare of others.

In a world of challenging social and technological transformation, Brandeis remains a center of open inquiry and teaching, cherishing its independence from any doctrine or government. It strives to reflect the heterogeneity of the United States and of the world community whose ideas and concerns it shares. In the belief that the most important learning derives from the personal encounter and joint work of teacher and student, Brandeis encourages both undergraduates and postgraduates to participate with distinguished faculty in research, scholarship and artistic activities.

Brandeis was founded in 1948 as a nonsectarian university under the sponsorship of the American Jewish community to embody its highest ethical and cultural values and to express its gratitude to the United States through the traditional Jewish commitment to education. By being a nonsectarian university that welcomes students and teachers of every nationality, religion and political orientation, Brandeis renews the American heritage of cultural diversity, equal access to opportunity and freedom of expression.

The university that carries the name of the Justice who stood for the rights of individuals must be distinguished by academic excellence, by truth pursued wherever it may lead and by awareness of the power and responsibilities that come with knowledge.

As adopted at the meeting of the Board of Trustees, December 6, 1984.

# The Graduate School of Arts and Sciences

## History and Organization

The Graduate School of Arts and Sciences was formally established in 1953 when the University's Board of Trustees authorized graduate study in the departments of Chemistry, Music, Psychology and Near Eastern and Judaic Studies. The general direction of the Graduate School is vested in Graduate Council of the Faculty composed of the president and the dean of the faculty, ex-officio; the dean of the Graduate School; and one representative, usually the chair, of each of the several University departments and committees offering graduate instruction. The members of the Graduate Council are appointed by the president on the recommendations of the deans of the Graduate School. The functions of the Graduate Council, exercised in consonance with University policy, are to determine requirements for admission; to provide programs of study and examination; to establish and maintain requirements for graduate degrees; to approve candidacy for degrees; to make recommendations for new areas of graduate study; to lay down such regulations as may be considered necessary or expedient for governing the Graduate School; and to exercise a general supervision over its affairs. The dean of the Graduate School is the chair of the Graduate Council and the chief executive officer of the Graduate School.

## Objectives

The underlying ideal of the Graduate School is to assemble a community of scholars, scientists and artists, in whose company the student-scholar can pursue study and research as an apprentice. This objective is to be attained by individualizing programs of study, restricting the number of students accepted, maintaining continual contact between students and faculty, and fostering the intellectual potential of each student. The graduate programs are designed to educate broadly as well as train professionally.

Degrees are granted on the evidence of intellectual growth and development, rather than solely on the basis of formal course credits. Fulfillment of the minimum requirements cannot, therefore, be regarded as the sole requisite for degrees.

## Areas of Graduate Study

During the academic year 1987-1988, graduate programs will be offered in the following areas:

1. Anthropology
2. Biochemistry
3. Biology
4. Biophysics
5. Chemistry
6. Comparative History
7. Computer Science
8. English and American Literature
9. History of American Civilization
10. International Economics and Finance
11. Jewish Communal Service
12. Joint Program of Literary Studies
13. Mathematics
14. Music
15. Near Eastern and Judaic Studies
16. Physics
17. Politics
18. Psychology and Cognitive Science
19. Sociology
20. Theater Arts

## Graduate School

The Graduate School office is located in the Rabb Graduate Center. The office is open Monday through Friday from 9 A.M. to 5 P.M. All requests for information, catalogs and application forms should be addressed to the Dean of the Graduate School of Arts and Sciences, Brandeis University, Waltham, Massachusetts 02254-9110.

## University Libraries

The Brandeis University Libraries, consisting of the Main Library and the Gerstenzang Science Library, have combined collections of 800,000 volumes, 650,000 microforms, 260,000 U.S. documents, 7,100 serials and 62 newspapers.

The Main Library, composed of the Bertha and Jacob Goldfarb Library and the Rapaport Treasure Hall, houses collections supporting the humanities and the social sciences; Judaica and creative arts. In addition, the library is a selective government document depository, emphasizing labor, health, politics and statistics. There is also a legal reference collection, providing sources on both the state and federal levels.

The Judaica department's reading room houses one of the country's most important collections of reference materials and basic texts pertaining to Judaic and Islamic studies.

the ancient Near East, and the modern Middle East. Current periodical indexes relating to these disciplines are also housed in the reading room.

The Norman and Rosita Winston Creative Arts Center houses the collections and facilities in music and fine arts. Over 13,000 volumes, emphasizing scholarly editions in medieval, Renaissance and baroque music, make up the musical score collection. In addition, there is a 1500-volume creative arts reference collection. The sound recording collection contains over 15,000 discs, tapes and cassettes with facilities to accommodate 72 listeners.

The Rapaport Treasure Hall is the home of the Special Collections Department and the Vito Volterra Cultural Center. This section includes the rare books collection, the manuscript collection and some Brandeis archival material. Among the most important collections are the Spanish Civil War collection, the Leonardo Da Vinci collection, the Vito Volterra collection on the History of Science and Mathematics, the McKew-Parr Collection on Magellan and the Age of Discovery, and the Justice Brandeis Collection.

The Gerstenzang Science Library, located within the science complex to allow convenient access by its users, contains the collections supporting the physical and natural sciences and mathematics.

Containing more than 100,000 volumes and over 900 periodical subscriptions, the library is a reference and research facility for the science complex, providing materials for advanced independent work as well as supporting instructional programs.

The Brandeis University Libraries use an integrated automated system known as LOUIS (Library Online User Information System). As an online catalog, it offers access to most of the library materials in the University Libraries through terminals located around the library.

Special services are available in the libraries to assist in the research process. Librarians provide computerized literature searches of databases on a cost recovery basis. Access is available through BRS, Dialog, NLM (National Library of Medicine) and CAS (Chemical Abstracts Service). Orientation to the libraries and instruction in the use of the collections are available by request at the reference desks. The Interlibrary Loan Service provides books or photocopies of materials not owned by the University Libraries. Brandeis is a member of the Boston Library Consortium, composed of 12 academic and research institutions in the Boston area. The consortium provides virtually free interlibrary loans, a union list of serials and cooperative access to collections.

# Admission

As a rule, only well-qualified men and women who have completed the normal four-year program leading to the bachelor's degree will be considered for admission to the Graduate School. Graduates of foreign schools and others who have completed the equivalent of a bachelor's degree program may apply, describing the educational program they have completed.

## Testing

Applicants for admission to the graduate programs in biochemistry, biophysics, politics and psychology are required to take the Graduate Record Examination, including the aptitude test portion and preferably one advanced test in a field related to the proposed area of graduate study. Applicants for admission to the graduate program in psychology must also take the Miller Analogies Test. Applicants to the Jewish Communal Service program must submit the results of either the Graduate Record Examination or the Miller Analogies Test. All other applicants are urged to take the Graduate Record Examination. In order for the results of the Graduate Record Examination to be considered, the applicant should take the examination no later than January preceding the academic year for which application is made. Information concerning the Graduate Record Examination is available from the Educational Testing Service, Princeton, New Jersey 08541-6155.

Foreign students, regardless of field of graduate study, are required to take the Test of English as a Foreign Language (TOEFL) unless English is their first language. Applications for admission to the test should be made to TOEFL, Educational Testing Service, Princeton, New Jersey 08541-6155 U.S.A. The test is administered at various established centers abroad.

## Application

Specific requirements for each graduate program are to be found under the appropriate headings in this catalog. Each applicant should consult these requirements before filing an application. A student may apply to only one graduate department or program. Applicants to the Graduate School should write to the dean of the Graduate School of Arts and Sciences, stating which program of study he or she wishes to enter. A catalog and appropriate forms will be forwarded to the applicant. The "Application for Admission" should be completed and returned in duplicate as soon as possible. Applicants requesting financial aid must file a CAPSFAS form. Closing dates for receipt

of applications by the several graduate departments are included with the application materials.

Applications for admission for the spring term must be filed by December 1. Students are not usually admitted at midyear, and those who do gain admission are not normally eligible for financial aid.

All applicants must arrange to forward, in duplicate, official transcripts of all undergraduate and graduate work. In addition, they must have forwarded, on forms provided by the Graduate School, two letters of recommendation, preferably from professors with whom they have studied in their proposed areas of study. Applicants who have engaged in graduate study elsewhere should request at least one of the recommendations from a professor with whom they have done graduate work.

Many departments also require the submission of samples of work as well as the materials described above. Applicants should consult departmental requirements in a later section of this catalog for enumeration of additional materials to be submitted.

All applications must be accompanied by an application fee of \$25, payable by check or money order to Brandeis University. No application will be processed until this fee is paid.

## Admission Procedure

All applicants are considered on a competitive basis. The number of students admitted each year in each department is limited so that the Graduate School may operate effectively under its distinctive principles of individualized study and apprenticeship. Consequently, admission may sometimes be denied to qualified persons. Meeting the minimum standards of admission merely qualifies the applicant for a place in the group from which final selections will be made. Selections are based on the applicant's ability to do graduate work of high quality, as shown by: the distinction of his or her previous record, particularly in the proposed area of study; the letters of recommendation submitted in support of the application; and his or her presumed adaptability to the particular graduate programs offered by Brandeis University. In addition, knowledge of foreign languages, relevant practical experience in the field, samples of work, the results of the Graduate Record Examination and indications of character are considered.

Each application for admission with all supporting records is first examined by the appropriate department or committee. The department or committee recommends to the dean of the Graduate School which applicants should be selected for admission and for financial aid. The dean reviews all applications in the light of departmental recommendations, and informs each applicant of the results in April.

## Acceptance

A student who has been accepted for admission to the Graduate School will be notified by a letter specifying the date by which he or she must accept the offer of admission and awards, if any. If a student selected for admission indicates that he or she does not intend to accept the offer or fails to reply by the date specified, the admissions offer becomes void and another applicant may be accepted.

Brandeis University subscribes to the "Resolution Regarding Scholars, Fellows, Trainees and Graduate Assistants" of the Council of Graduate Schools in the United States. The resolution states:

"Acceptance of an offer of financial aid (such as a graduate scholarship, fellowship, traineeship, or assistantship) for the next academic year by an actual or prospective graduate student completes an agreement which both student and graduate school expect to honor. In those instances in which the student accepts the offer before April 15 and subsequently desires to withdraw, the student may submit in writing a resignation of the appointment anytime through April 15. However, an acceptance given or left in force after April 15 commits the student not to accept another offer without first obtaining a written release from the institution to which a commitment has been made. Similarly, an offer by an institution after April 15 is conditional on presentation by the student of the written release from any previously accepted offer. It is further agreed by the institutions and organizations subscribing to the above Resolution that a copy of this Resolution should accompany every scholarship, fellowship, traineeship, and assistantship offer."

Students who are accepted must provide the Graduate School Office with an official final transcript of their undergraduate record and of any graduate work in process at the time of acceptance. In addition, students who are accepted are required to complete and return a medical questionnaire and a health insurance form, which will be sent during the summer. Registration is conditional upon receipt by the University Health Office of these required forms.

## Foreign Students

If, after having been admitted, a student cannot attend, he or she should notify the dean of the Graduate School as soon as possible. If such students are to be admitted for a subsequent academic year, they must request reactivation of their applications at the appropriate time, and bring them up to date.

Applicants who have been denied admission may reapply in a later year, particularly if they have had further training which would strengthen their applications or if they can submit additional letters of recommendation.

Admission to the Graduate School does not imply that the successful applicant has been accepted as a candidate for a graduate degree. Superior performance at Brandeis University is essential. Admission to candidacy for the M.A. or M.F.A. is granted by the graduate department or committee administering the program of study. Admission to candidacy for the Ph.D. is granted by the Graduate Council on the recommendation of the department or committee administering the program of study.

## Readmission

Admission is valid only for one academic year. A student's record is reviewed annually, and he or she may be denied readmission. Students completing the requirements for the M.A. or M.F.A., and students who already hold a master's degree but who have not yet been admitted to candidacy for the doctorate, must make formal application for readmission by the first business day in March. The readmission application must be filed with the Graduate School Office.

## Requirements for the Degree

Graduates of foreign colleges and universities who have the equivalent of an American bachelor's degree, and foreign students who have been graduated from American universities may compete for admission and financial assistance at Brandeis, which is authorized under Federal law to enroll nonimmigrant alien students.

In order to ascertain the eligibility of the candidate, Brandeis University requires that each applicant file a **Preliminary Request for Application** form obtained by writing to either the Graduate School of Arts and Sciences or the Office of International Programs any time before September 1 of the year preceding the anticipated admission date. This information will be evaluated and the application form itself will be sent to those who qualify.

Final applications must be completed and returned by February of the year in which the student seeks fall admission. Successful applicants will be notified as soon as possible.

**Entrance Examinations.** All applicants whose major language is not English must take the Test of English as a Foreign Language (TOEFL); thorough competence in English is required for study at Brandeis. All applicants are urged to take the Graduate Record Examination (GRE). They should consult this catalog for the departments which may require this examination. For information concerning the administration of both these examinations, applicants should write to the Educational Testing Service, Princeton, New Jersey 08541-6155.

**Financial Aid.** Financial aid in the form of scholarships, fellowships, teaching assistantships and research assistantships is available to only a few of the most outstanding students. In any case, the total assistance offered usually covers only a small proportion of the student's total annual expenses. Hence the students, when applying for admission, should indicate a means of financial support. At least \$5,000 in United States currency is necessary to cover living costs for the nine-month academic year, exclusive of expenses for tuition, travel and summer or vacation periods.

**Employment.** The regulations of the United States Immigration and Naturalization Service limit strictly the amount of paid work that a student from abroad may do. During the summer vacation, the Immigration Service may permit the student to obtain off-campus employment. Such permission cannot be guaranteed, however. Students must petition on special United States government forms, through the Office of International Programs, for permission to accept such employment.

The following general requirements apply to the awarding of graduate degrees in all areas of study. For specific program requirements students should consult the appropriate section of this catalog.

### Master of Arts

In order to qualify for a master's degree, the student must complete the equivalent of one full year of graduate study at Brandeis University, ordinarily computed at a minimum of eight semester courses of approved study. Departments may, at their option, require more than eight semester courses of graduate study. Departments offering master's programs may require that the candidate demonstrate a reading knowledge of at least one foreign language and pass satisfactorily a general or qualifying examination which, at the department's discretion, may be in one or more parts and may be written, oral or both. Where a thesis is required for the master's degree, two copies must be submitted to the department chairman in final form no later than the first Friday in January for a February degree or May 1 for a May degree.

The master's degree must be earned within four years from the inception of graduate study at Brandeis University.

### Master of Fine Arts

In order to qualify for the degree of Master of Fine Arts in Music, the candidate must complete with distinction 12 semester courses at the graduate level, and must meet the specific requirements for the degree as set forth under the music department.

**Requirements for the M.F.A. Degree,** in a later section of this catalog. Two copies of the thesis or composition must be submitted to the department chairman in final form no later than the first Friday in January for a February degree or May 1 for a May degree.

In order to qualify for the degree of Master of Fine Arts in Theater Arts, the candidate must complete the equivalent of 16 semester courses at the graduate level and must meet the specific requirements for the degree outlined under theater arts. **Requirements for the M.F.A. Degree,** in a later section of this catalog. Students enrolled for specialization in dramatic writing must submit two copies of a play in final form in lieu of a thesis.

The Master of Fine Arts degree must be earned within five years from the inception of graduate study at Brandeis University.

## Doctor of Philosophy

In order to qualify for the degree of Doctor of Philosophy, a student must ordinarily complete a minimum of three years of graduate study, including two full years of residence and a third year devoted to the preparation of a doctoral dissertation. Under certain conditions, credit for advanced standing will be granted for work taken in residence in graduate schools of other universities. Each department or committee reserves the right to require prospective candidates for the degree to perform work in excess of its minimum standards to assure thorough mastery of the area.

Prospective candidates may be required to demonstrate proficiency in at least one foreign language. In all areas of study the student must satisfactorily pass a general or qualifying examination which, at the department's discretion, may be in one or more parts and may be written, oral or both. In addition, all prospective candidates must write a doctoral dissertation and defend it in a final oral examination.

To be eligible for the Ph.D. degree in any given year, the student must have (1) been admitted to candidacy for the doctorate, (2) completed all residence requirements and (3) passed all language and qualifying examinations, by the close of the semester preceding the semester in which the degree will be conferred.

Students entering Brandeis University with no previous graduate work must earn the doctorate within eight years from the inception of study. Students who are granted credit for a year of graduate work completed elsewhere must earn the degree within seven years from the inception of their study at Brandeis.

## Language Requirements

There is no University requirement for foreign language competency at either the master's or doctoral level.

Each department or program determines which languages are acceptable as satisfying its foreign language requirement. Some departments may not require foreign language competency, while others may set requirements which will vary within the subfields offered by those departments.

In departments where languages are required, students are expected to satisfy the requirement as soon as possible. Completion of this requirement at another university does not satisfy the Brandeis requirement.

For specific requirements of each department or program, consult the departmental listing in the following section of this catalog.

## Admission to Candidacy

A student who (a) has demonstrated a knowledge and mastery of the subject matter of the field at a level satisfactory to the department or committee, (b) has passed all departmental qualifying examinations, (c) has indicated a capacity for independent research of high quality and (d) has satisfactorily completed all specific department or committee requirements for admission to candidacy may, at the recommendation of the department or committee, be admitted under the rules of the Graduate Council to candidacy for the degree of Doctor of Philosophy. In order to be eligible for the degree, the student must be admitted to candidacy at least one semester before it is awarded.

## Application for Graduate Degrees

Candidates for the M.A., M.F.A. and Ph.D. degrees must file with the Graduate School Office an application for the degree no later than December 1 for a February degree and no later than March 1 for a May degree of the academic year in which the degree is to be conferred. Upon the written recommendation by a candidate's department or committee that the application be approved, the record will be reviewed by the Graduate Council which recommends the student to the University's Board of Trustees for the award of the degree. In case of failure or withdrawal from candidacy in any year, the student must reapply by filing a new application in a later year.

## Dissertation and Final Oral Examination

When a student is ready to embark upon the preparation of a doctoral dissertation, a Dissertation Reading Committee of no less than three faculty members, at least one of whom is a tenured member of the faculty, will be appointed by the chairman of the student's department. The student's principal advisor will serve as the chairman of this committee. The Dissertation Reading Committee will guide the research for and preparation of the dissertation. When this committee certifies its approval of the dissertation to both the dean of the Graduate School and the chairman of the student's department, the latter, with the approval of the dean of the Graduate School, will appoint a Dissertation Examining Committee to preside over the student's Final Oral Examination and will notify the candidate of the time and place of the Final Oral Examination at least three weeks prior to the scheduled date of the examination. Two copies of the dissertation, as well as an abstract of no more than 350 words, should

be submitted to the Dissertation Reading Committee for approval. Style and format of dissertations are determined by the respective departments.

The dissertation, when approved by the readers, must then be deposited in the department office where it will be available for inspection by all interested members of the faculty for at least two weeks prior to the Final Oral Examination.

The department will publish in **The Brandeis Reporter** the time and place of the candidate's Final Oral Examination and the title of the doctoral dissertation. The Final Oral Examination will be open to any member of the faculty engaged in graduate instruction and to invited faculty members from other institutions.

The Dissertation Examining Committee, recommended by the department chairman and approved by the dean of the Graduate School, must be composed of a minimum of three faculty examiners, at least one of whom shall be a tenured member of the faculty and one of whom shall be from a graduate department outside the student's own, in a related area.

The examination may be restricted to a defense of the dissertation, or may cover the whole field of the dissertation. The candidate will be notified by his or her department or committee of responsibility for coverage prior to the examination.

A report, signed by the Dissertation Examining Committee, certifying the candidate's successful performance on the Final Oral Examination, will be submitted to the dean of the Graduate School.

## Deposit and Publication of Dissertation

No later than the dates specified in the current Academic Calendar for February and May degrees, the candidate must deposit two copies of the finished dissertation, including the original typescript, in a state suitable for microfilm and Xerox publication. Both copies of the dissertation must have the signed approval of the dissertation supervisor and readers. One copy will be retained by the library, the other will be returned to the student, both bound. The candidate must also submit two copies of an abstract of the dissertation, not exceeding 350 words, which has been approved by the dissertation supervisor.

A detailed statement of the Graduate School publication regulations is available from the Graduate School Office. See also the statement in this catalog, under **Fees**, on the Final Doctoral Fee.

# Academic Regulations

## Registration

Every resident student must register in person at the beginning of each semester, whether attending regular courses of study, carrying on research or independent reading, writing a thesis or dissertation, or utilizing any academic service or facility of the University. Students who have completed their residence requirements and who wish to utilize any academic service or facility of the University must also register.

There is a charge of \$10 if registration is not completed at the time specified in the Academic Calendar.

Registration consists of payment of all fees for the semester and filing a Registration Card and other duly completed required forms. Program Cards are filed at a later date.

## Program of Study

Before filing a Program Card, the student should plan a program of study in consultation with the chairman of the department. All courses for which the student registers for credit must be listed on the Program Card.

Audited courses must also be listed, noted as "audit," and the Program Card must be signed by instructors of such courses.

Graduate students may not normally register for an undergraduate course (numbered below 100) for degree or residence credit unless they secure the signed approval of both the instructor of that course and their department chairman. The student must then petition the dean of the Graduate School for the desired credit, and must receive approval before or at the time of registration. Credit will not be given for undergraduate courses taken to make up deficiencies in the student's preparation for a graduate program of studies, nor will credit ordinarily be given for language courses that are not part of the student's program of studies. Under no circumstances may a student receive credit toward completion of degree or residence requirements for courses undertaken to aid in the completion of language requirements. Scholarship students may not apply their scholarships toward the remission of tuition for undergraduate courses taken to remedy deficiencies. The completed Program Card must be signed by the department chairman before submission for registration, and the department chairman will certify whether the program of study is full-time or part-time and, if part-time, whether one-quarter, one-half or three-quarters time. Full-year courses must be re-entered at midyear. Students wishing to drop a full-year course at midyear must petition

the dean of the Graduate School for permission, after receiving the written approval of the instructor of the course and of the chairman of their department. Students may not register at midyear for a full-year course without the written approval of the instructor of the course and their department chairman.

Program Cards are filed approximately two weeks after the opening days of instruction (see Academic Calendar for specific date) and are considered to be final.

## Auditing Courses

The privilege of auditing courses without fee is extended to all regularly enrolled graduate students except special students. Special students may audit courses by paying for them at the same rate as those taken for credit. No courses may be audited without the permission of the instructor. Auditors may not take examinations or expect evaluation from the instructor. No credit is given for an audited course.

## Change of Program

Only under unusual circumstances are students allowed to drop courses after filing their Program Cards. To do so, a Course Change Card is obtained from and returned to the Graduate School Registrar. Courses must be dropped no later than one week prior to the beginning of an examination period. Each course dropped is subject to a \$10 fee.

## Registration in Terms of Time

Advanced students — those who have completed two full years of residence, either by graduate work at Brandeis or by receiving credit for graduate work done elsewhere — may register in terms of time, subject to the signed approval of their department chairman. Their Program Cards must indicate that they are registering full-time or a specific fraction thereof (one-quarter, one-half or three-quarters).

Registration in terms of time is a device that helps to individualize programs of study and permits increased freedom for independent research for advanced graduate students. Registration in terms of time frees students to pursue a program of study that partially accepts or bypasses altogether the system of formal courses, although students registering in terms of time will usually register for an advanced research or dissertation course. Their time will be spent in such research and reading as will be most beneficial to their development as scholars.

## Absence from Examinations

Students who are absent from a midyear or final examination without an accepted excuse will receive a failing grade for that examination. No students may be excused from such examination unless for emergency or medical reasons, nor may they be excused if they were able to notify the instructor in advance and failed to do so. Cases involving absence are referred to the chairman of the department who will decide whether a make-up examination shall be allowed, and who will notify the dean of the Graduate School. The examination must be taken within six weeks of the opening of the next semester.

## Grades and Course Standards

Graduate students are expected to maintain records of distinction in all courses. Letter grades will be used in all courses in which grading is possible. In reading, thesis or research courses, if a letter grade cannot be given at the end of each semester or academic year, "Credit" or "No Credit" may be used.

No Credit" and any letter grade below B-minus are unsatisfactory grades in the Graduate School. A course in which the student receives an unsatisfactory grade will not be counted toward graduate credit.

At the end of each academic year the Registrar of the Graduate School will issue to each student a report of grades and of degree requirements satisfactorily completed.

## Incompletes

A student who has not completed the research or written work for any course may receive a grade of "Inc." (incomplete) or a grade of failure at the discretion of the instructor in the course. A student who receives a grade of "Inc." must satisfactorily complete the work of the course in which the "Inc." was given in order to receive credit for the course and a letter grade. An "Inc." unless given by reason of the student's failure to attend a final examination, must be made up no later than the end of the term following the term in which it was received. When failure to take a final examination has resulted in an "Inc." resolution of that grade to a letter grade must occur within six weeks of the beginning of the next semester. If a student requires additional time to settle an incomplete grade, he or she may petition the dean of the Graduate School for an extension of time, provided the petition is signed by the instructor of the course and by the department chairman. Such a petition must be filed prior to the expiration of the deadline for making up an incomplete.

## Credit for Work Done Elsewhere

Graduate level courses taken prior to matriculation at Brandeis University may not be counted toward fulfillment of the residence requirement for the Master of Arts degree, although a department may accept work taken elsewhere in partial fulfillment of specific course requirements for the degree. In that case, additional courses are designated to replace courses from which the student has been exempted.

A maximum of one term of residence credit for graduate level courses taken prior to matriculation may be counted toward fulfillment of the residence requirements for the Master of Fine Arts degree.

Students admitted to Ph.D. programs may file an application to have graduate level courses taken prior to matriculation counted toward fulfillment of residence requirements at this institution. A maximum of one year of residence credit may be granted.

Applicants for transfer credit will not necessarily be granted the credit requested. Each department reserves the right to require of any student work in excess of its minimum standards to assure thorough mastery of the area of study. In all cases, courses being transferred must carry a grade of "B" or better and must have been earned at an appropriately accredited institution.

After completing one term of residence at a full-time rate, or the equivalent at a part-time rate, students eligible to apply for transfer credit may do so. Forms are obtained at the Graduate School Office and are submitted to the student's department for its approval. The form is then forwarded to the dean of the Graduate School for final approval. The dean will advise the applicant of any action taken.

Credit for work at another institution taken concurrently with studies in the Graduate School must be approved for potential transfer credit by both the student's department and the dean of the Graduate School prior to registration for such courses. Such approval is granted only in unusual circumstances. Students who formally cross-register with Boston College, Boston University and/or Tufts University through the Consortium do not need prior approval.

## Residence Requirements

Residence requirements for all graduate degrees are computed by determining the amount of registration for credit and the tuition charges. Part-time students and teaching assistants pursuing part-time programs of study for credit complete their residence requirements when their fractional programs (one-quarter, one-half, three-quarters) total the amount required of a full-time student.

### Master of Arts

The minimum residence requirement for all students is one academic year on a full-time graduate credit program at the full tuition or the equivalent thereof in part-time study. Transfer credit may not be applied to residence requirements for the Master of Arts degree.

### Master of Fine Arts

The minimum residence requirement for all students in music is three semesters at a full-time rate, or the full tuition rate for each semester, or the equivalent thereof in part-time study. Residence may be reduced by a maximum of one term with approved transfer credit.

The minimum residence requirement for all students in theater arts is four semesters at a full-time rate, at the full tuition rate for each semester, or the equivalent thereof in part-time study. Residence may be reduced by a maximum of one term with approved transfer credit.

### Doctor of Philosophy

The minimum residence requirement for all students is two academic years on a full-time graduate credit program for each year, at the full tuition rate for each year, or the equivalent thereof in part-time study. A maximum of one year's approved transfer credit may be granted toward residence for the Ph.D. degree.

## Full-Time Resident Students

A full-time student is one who devotes the entire time, during the course of the academic year, to a program of graduate work at Brandeis University, to the exclusion of any occupation or employment. In exceptional cases, however, a student may accept outside employment with the approval of the department chairman.

A full-time program may include a combination of teaching and research assistance, work leading to the fulfillment of degree requirements, such as preparation for qualifying, comprehensive and final examinations, or supervised reading and research, or the writing of M.A. theses and Ph.D. dissertations, as well as regular course work.

A full-time resident student may take as many courses for credit in any semester as are approved by the department chairman, but no student may receive credit for, or be charged for, more than a full-time program in any semester. Thus the minimum residence requirement for any degree may not be satisfied by an accelerated program of study or by payment of more than the full-time tuition rate in any single academic year.

Ph.D. candidates and students for whom the M.A. and M.F.A. degrees are terminal degrees may continue as full-time students on completion of their residence requirements by registering at the post-residence fee rate (see page 13).

## Part-Time Resident Students

A part-time student is one who devotes less than the entire time to a program of graduate work at Brandeis University. Students may register for a credit program of one-quarter, one-half or three-quarters time. A part-time student may engage in outside employment with the permission of the department chairman.

Students wishing to pursue part-time residence study leading to a graduate degree must explain in writing, at the time they seek admission, why full-time study is not possible. Students receiving financial aid from the University, who wish to change their status from full-time to part-time residency, must file with the Graduate School Office an explanation of why full-time study is no longer possible.

## Discipline and Student Judicial System

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### **Post-Resident Students**

A graduate student who has completed residence requirements and who registers in order to utilize academic services or University facilities while completing degree requirements is a post-resident student.

### **Special Students**

Properly qualified persons who wish to audit or to take courses without working for a degree will be admitted. Special students are not eligible for University loans, scholarships, fellowships, teaching or research assistantships, nor will they be considered for resident counselorships. Special students who later wish to change their status to that of part-time or full-time students working for a degree must apply for admission as resident students. They must also file a special petition if they wish credit to be accepted for any courses taken at Brandeis as special students. Credit for such course work may be granted in exceptional cases.

### **Leave of Absence**

Students who have not completed their residence requirements may petition for leave of absence. The petition must have the approval of both the chairman of the department and the dean of the Graduate School. Leaves of absence up to one year will normally be granted to students in good academic standing who present compelling personal reasons or need to do work off campus in connection with their graduate studies. Time spent on authorized leaves of absence will not be deducted from the maximum time permitted to complete degree requirements.

If for any reason a student must extend a leave of absence, he or she must request such extension in writing before the leave of absence expires. Failure to do so will result in being automatically dropped from the Graduate School roster.

### **Continuation**

Graduate students who have completed residence requirements and who are not registered during the period in which they are completing degree requirements are considered Continuation Students. A student in this category is not eligible for a leave of absence, except for reason of ill health (see Fees, page 12).

### **Withdrawal**

A student who wishes to withdraw from the Graduate School at any time before the end of the academic year must give immediate written notice to the department chairman and to the dean of the Graduate School. Failure to comply may subject the student to dishonorable discharge, refusal of readmission, cancellation of the privilege of securing an official transcript and, in the case of a student withdrawing within 30 days of the beginning of classes, loss of eligibility for partial refund of tuition. Such a student must pay tuition for the full semester. Permission to withdraw will not be granted if the student has not discharged all financial indebtedness to the University or has not made arrangements for subsequent payment to the satisfaction of the controller's office.

### **Exclusion, Dismissal or Expulsion**

The University reserves the right to dismiss or exclude at any time any student whose character, conduct, academic standing or financial indebtedness it regards as undesirable. Neither the University nor any of its trustees or officers shall be under any liability whatsoever for its disciplinary action, exclusion or dismissal.

The University also reserves the right to revoke, cancel or reduce at any time any financial or honorific award made to any graduate student, for character, conduct, academic standing or financial indebtedness regarded by the University as undesirable; neither the University nor any of its trustees or officers shall be under any liability whatsoever for canceling, revoking or reducing any award.

### **Student Judicial System**

The University establishes standards of student behavior and reserves the right to suspend or permanently dismiss students whose conduct warrants such action. The University will give due notice and, if requested, a hearing before the appropriate body. The Student Judicial System is administered by the Offices of Student Life and Residence Life. Standards, policies and procedures are published in the Student Handbook.

# Annual Notice to Students Brandeis University Records Policy

Annually, Brandeis University informs students of the Family Educational Rights and Privacy Act of 1974, as amended. This act, with which the institution intends to comply fully, was designed to protect the privacy of educational records, to establish the right of students to inspect and review their educational records, and to provide guidelines for the correction of inaccurate or misleading data through informal and formal hearings.

Students also have the right to file complaints with The Family Educational Rights and Privacy Act Office (FERPA) concerning alleged failures by the institution to comply with the Act.

University policy explains in detail the procedures used by the institution for compliance with the provisions of the Act. Copies of the policy, which includes a directory of records listing all education records maintained on students by the institution, can be found in the offices of the University Registrar, the Dean of the College, the Graduate School and the Heller School. The policy is also on reserve in the Farber Library. Questions concerning the Family Educational Rights and Privacy Act may be referred to the Office of the University Registrar.

## *Public Notice Designating Directory Information*

Brandeis University hereby designates the following categories of student information as public or "Directory Information." Such information may be disclosed by the institution for any purpose, at its discretion.

### *Category I*

Name, local address and telephone number, date of birth, class (i.e., year of graduate study).

### *Category II*

Dates of attendance and field of concentration at Brandeis, previous institution(s) attended and major field of study, awards and honors, degree(s) conferred and date(s) conferred.

### *Category III*

Past and present participation in officially recognized sports and activities, physical factors (height, weight, etc.).

Currently enrolled students may withhold disclosure of any category of information under the Family Educational Rights and Privacy Act of 1974, as amended. To withhold disclosure, written notification must be received by the Graduate School registrar prior to the fall term registration deadline at Brandeis University. Forms requesting the withholding of such information are available at the office of the Graduate School registrar.

Students who withhold disclosure of Category I information will not appear in the student directory published annually by the University. Brandeis University assumes that failure on the part of any student specifically to request the withholding of information indicates individual approval for disclosure.

# Fees and Expenses

Payment of tuition and other fees due on the day of registration is a part of the registration procedure. A student who is not prepared to pay such fees on the day of registration will be refused the privilege of registration.

A student who defaults in the payment of indebtedness to the University shall be subject to suspension, dismissal and refusal of a transfer of credits or issuance of a transcript.

Such indebtedness includes, but is not limited to, delinquency of a borrower in repaying a loan administered by the Student Loan Office, and the inability of that office to collect such a loan because the borrower has discharged the indebtedness through bankruptcy proceedings. If the student is a degree candidate, his or her name will be stricken from the rolls.

A student who has been suspended or dismissed for nonpayment of indebtedness to the University may not be reinstated until such indebtedness is paid in full.

**Application Fee:** \$25. Payable by all applicants for admission at the time the application for admission is submitted. It is not refundable. Checks and money orders should be made payable to Brandeis University. No application for admission will be processed until this fee is paid. This fee is not required of Brandeis graduates.

**Tuition Fee:** The fees for tuition in the Graduate School for 1987-88 are as follows:

Full-time resident students: \$11,770 per year, or \$5,885 per term.

Part-time resident students:

<i>Per Term</i>	<i>Per Year</i>	<i>Fraction Program of Study</i>
\$4,413.75	\$8,827.50	Three-quarters
\$2,942.50	\$5,885.00	One-half
\$1,471.25	\$2,942.50	One quarter

Special Students: \$1,475.00 per course per term.

In view of the constantly increasing costs of education, students may expect one or more tuition increases during their academic careers.

**Post-Residence Fee:** Students who have completed their residence requirements and who wish to continue in residence to utilize any academic service or University facility must register at the usual tuition rates. Graduate students whose tuition is not being paid from scholarship or fellowship funds awarded by the University or other sources may petition the dean of the Graduate School for a reduction of the post-residence fee to \$725. Students who continue to utilize any academic service or University facility after having completed residence, but who have failed to register, are subject to disciplinary action by the dean of the Graduate School. A student who is eligible for registration on the post-residence basis may file a Program Card for full-time study, in terms of courses or in terms of time or any combination thereof, provided the department chairman approves of the program of study as being a full-time program and signs the Program Card.

**Mixed Tuition Fee:** In the event that a student needs to register for only a part-time program (one-quarter, one-half or three-quarters) in order to complete residence requirements, but wishes to register for additional courses or take a fuller program of study, he or she shall be charged for the part-time program needed to complete residence, plus the post-residence fee.

**Late Registration Fee:** \$10. Payable for failure to complete registration at the time announced by the Graduate School Office.

**Orientation Fee:** \$5. A one-time fee payable by students entering for the first time.

**Change-of-Program Fee:** \$10. Payable by any graduate student who wishes to drop or add a course after filing Study Cards.

**Incomplete Records Fee:** \$25. Payable for failure to complete administrative requirements by date(s) specified in the Academic Calendar and/or catalog (e.g., late filing of Health Examination Report, failure to register, etc.)

**Continuation Fee:** \$20. Payable annually by graduate students who have completed residence requirements and who are not registered during the period in which they are preparing for the completion of degree requirements. Students in this category are not eligible for leaves of absence.

**Master's Fee:** \$50. A candidate for the M.A. or the M.F.A. who is subject to the Continuation Fee and who earns a degree in any semester following one in which he or she has not been in residence, shall pay the Master's Fee. The fee is chargeable only once.

**Final Doctoral Fee:** \$250. This fee covers all costs for the year in which the Ph.D. degree will be conferred, including the costs for the microfilm publication of the dissertation, publication of the abstract of the dissertation in *Dissertation Abstracts*, issuance of a Library of Congress number and appropriate library cards, binding two copies of the dissertation, one for use in the University Library and one Xerox-printed copy in book form for the author. The Final Doctoral Fee covers the rental expenses for academic robes for graduation and the cost of the diploma. Students who have been in residence in their final year may deduct any tuition charges which they may have paid to the University in that final year. Students who have paid the Continuation Fee in the final year may deduct that fee from the Final Doctoral Fee.

**NOTE:** All candidates for the Ph.D. degree must pay the \$250 Final Doctoral Fee prior to the receipt of their degrees.

**Reinstatement Fee:** \$10. Payable by a student who, after withdrawal, suspension or dismissal, has been reinstated with the consent of the dean of the Graduate School.

**Transcript Fee:** \$2. Students, former students and graduates who request official transcripts of their records in the Graduate School are charged \$2 for each copy issued after the first one, which is free. Requests by mail for transcripts must be accompanied by a check in the correct amount, payable to Brandeis University. Transcripts will be issued only to those students whose university financial records are in order.

**Diploma Fee:** \$15. Payable by candidates for the M.A. and M.F.A. degrees.

**Student Health Services Fee:** \$250. Entitles the graduate student to use of the Health Services.

**Student Insurance Fee:** \$290. Payment of the Insurance Fee entitles the graduate student to participate in the benefits of the Health Insurance Program. The fee is payable at registration and no portion is refundable. Student insurance is optional for Special Students.

**Student-Spouse Insurance Fee:** \$505. This fee provides 12-month coverage for student and spouse in the Health Insurance Program. The fee is payable at registration and no portion is refundable.

**Dependent Insurance Coverage:** Although the health services offered at Stoneman Infirmary are not extended to dependents of students, an optional family health insurance plan is available to married students for a fee of \$695. Special Students are not eligible for this plan.

**Parking Fee:** \$5-\$35. Payable annually at fall registration for privilege of parking an automobile on campus. Fee varies with assigned parking area.

## Refunds

The only fee which may be refundable, in part, is the tuition fee. No refund of the tuition fee will be made because of illness, absence or dismissal during the academic year. If a student withdraws, he or she may petition the dean of the Graduate School for a partial refund of tuition in accordance with the following:

### 1. Tuition:

Withdrawal before the opening day of instruction: 100% of semester tuition. On or before the second Friday following the opening day of instruction: 75% of semester tuition.

On or before the fifth Friday following the opening day of instruction: 50% of semester tuition.

After the fifth Friday following the opening day of instruction: no refund.

### 2. Scholarship:

In the case of a scholarship student who withdraws, the student's account will be credited with the same proportion of the semester scholarship as charged for tuition: 25% if the student leaves on or before the second Friday; 50% on or before the fifth Friday; and 100% thereafter. The balance of the scholarship will be canceled.

## Financial Assistance

To help students whose records indicate scholarly promise, the University makes available special scholarships and fellowships and a variety of awards and work opportunities. No student is eligible for aid without filing with the Graduate School Office a standard financial aid form (GAPSFAS). All scholarships and fellowships are granted for one academic year; therefore, a registered student who holds a scholarship or fellowship must apply annually for a renewal by filing the "Application for Financial Assistance."

All awards are granted and accepted with the understanding that they may be revoked or reduced at any time for undesirable conduct or poor academic standing.

Ordinarily, no student may hold a fellowship, scholarship or teaching assistantship for more than two years of study for the M.A. degree, for more than three years of study for the M.F.A. degree or for more than four years of study for the Ph.D. degree. Ordinarily, no student may receive a scholarship, fellowship or teaching assistantship after one year of study at the post-residence fee. Priority in making awards is given to full-time students and teaching assistants.

In the case of a student receiving financial aid from Brandeis University, whether in the form of a teaching assistantship, scholarship or fellowship, the approval of the dean of the Graduate School is required, in addition to the approval of the department chairman, before the student may engage in outside employment.

### Scholarships

A scholarship is an award, on grounds of scholarly ability and need, of financial credit that will be used exclusively for remission of tuition fees. Full scholarships and partial scholarships are available. Scholarship students are liable for all but tuition charges.

### Fellowships

A fellowship is an academic award of honor to outstanding students of good character to help them in furthering advanced study and research. The amount of the stipend depends on the quality of the student's record and performance; need is also considered in most cases. A fellowship recipient must pay tuition fees unless the award includes a scholarship in an amount covering tuition. No services are required of students for fellowship or scholarship awards.

### Teaching Assistantships

Teaching assistants are resident students in the Graduate School who do part-time teaching as part of their training and are paid. The University has established teaching assistantships to enable distinguished graduate students to gain teaching experience while continuing their studies. Teaching assistants are eligible for other awards, including scholarships and fellowships.

Teaching assistantship appointments are made on the authority of the President of the University by the dean of the Graduate School who, in turn, acts on the recommendation of a student's department chairman. Appointments are made for periods of one year or one semester, but are renewable. All awards of teaching assistantships to incoming students are conditioned on an interview with a University representative, prior to registration. The University reserves the right to terminate any appointment at any time for due cause. Conduct, character or academic standing that is regarded as undesirable may constitute cause, but the University need not assign any reason for the termination of an appointment at any time. All teaching assistantship appointments are made and accepted with this understanding, and neither the University nor any of its trustees or officers shall be under any liability whatsoever for the summary termination of a teaching assistantship.

### Research Assistantships

Research assistantships are available in the science areas. First-year graduate students are not normally eligible for appointment. Application should be made to the chairman of the department or the committee administering the graduate program.

### Loans

Guaranteed Student Loan Program (CSLP). A student may be eligible for a guaranteed student loan if he or she meets the following requirements: (1) is accepted for enrollment or is attending Brandeis University and is in good standing as determined by the University; (2) is carrying at least one-half the normal full-time work load; (3) is a citizen or national of the United States or is in the United States for other than a temporary purpose; (4) can demonstrate need. An eligible student may be able to borrow up to \$7,500 in any academic year at an 8% interest rate, and does not have to begin repayment until six months after he/she ceases to be at least a half-time student. The total amount a student may borrow under the Guaranteed Student Loan Program, including both undergraduate and graduate school loans, may not exceed \$54,750. Special Students, regardless of whether they are full or part-time, are ineligible for CSL loans.

Information and applications for this program are available from banks, savings and loan associations and credit unions.

Students who plan to borrow through one of the participating sources must have on file at the Graduate School Office a current Graduate and Professional Student Financial Aid Service form (GAPSFAS). Forms may be obtained at the Graduate School Office or from the Educational Testing Service, Princeton, New Jersey 08541-6155.

### Resident Counselorships

A limited number of positions is available for both married and unmarried men and women as counselors in the University residence halls. Applications may be obtained from the Office of Residence Life and should be returned no later than March 15. Appointments are made by the Director of University Housing on or about June 1.

### Office of Student Employment

The Office of Student Employment assists students who need and desire part-time work. Students seeking part-time work should register with the Office of Student Employment. New students are not assigned part-time work prior to arrival on campus.

## Student Services

### Housing

Brandeis University has a limited number of apartment units available for single and married graduate students. All apartments are within easy walking distance of the campus. These include efficiency, one and two bedroom *unfurnished* apartments as well as efficiency and one bedroom *furnished* apartments. Single students may rent a space in an apartment and request the Graduate Housing Office assign a roommate. The one bedroom apartments are particularly designed to allow use as two separate bedrooms with a common kitchen and bathroom. Early application for housing is encouraged.

Information, rental rates and copies of the housing contract may be obtained by writing to the Office of Residence Life Brandeis University, Waltham, Massachusetts 02254-9110.

In addition, the Graduate Housing Office maintains Off-Campus Housing Services (OCHS). OCHS has extensive listings of available housing in the area, a list of realtors who may be helpful in a search for housing, and descriptions and information about nearby neighborhoods and towns. OCHS does not serve as a real estate agent, but rather as a resource to help in locating housing.

### Dining Facilities

Graduate students may sign meal contracts for varying numbers of meals or buy cash meal books. Arrangements for these contracts are made at the office of the Director of Food Services in Kutz Hall. A kosher kitchen is also maintained. Individual meals and light snacks may be purchased at Usdan Student Center.

### Health Services

Because health and medical care are an integral part of the University experience, the University Health Services provides a program of comprehensive medical and emotional care. An optional Health Participation Fee entitles students to medical services available at Mailman House without additional charge during the academic year. This fee does not pay for off-campus medical consultations, dental care, medications, laboratory tests, drugs, x-rays, reusable supplies or admission to the University's hospital, Stoneham Infirmary, and students are responsible for these charges.

In addition, each student is required to have personal health insurance. The student may elect to participate in the Student Health Insurance Plan offered through the University, underwritten by Blue Cross-Blue Shield or may substitute membership in another plan.

International students are required to have full United States or Canadian health insurance for themselves, their spouses and their children regardless of a national health insurance in their home country. They may enroll in the Student Health Insurance Program or may arrange alternate insurance with a company in the United States.

Both domestic and international students must provide documentation of health insurance coverage to University Health Services at the start of each academic year. Those who do not provide this information will be automatically enrolled in the Student Health Service Insurance Plan.

Except for limited day-care facilities, the Health Services and the use of the Stoneham Infirmary are available to students only during the period in which the University is in regular academic session.

Prospective students planning to matriculate in the college and graduate schools must submit a Health Examination Report completed by the family or personal physician prior to registration. In addition to information about previous health and details of the physical examination, evidence of immunization against tetanus, polio, measles, mumps and rubella are required. Since students may not register until the requirements have been satisfied, it is strongly recommended that the Health Examination Report submitted by July 1.

The Student Health Insurance Plan is designed to defray expenses of those situations which are beyond the scope of the Health Services; for example, laboratory and x-ray examinations, as well as hospitalization for illnesses or accidents of a more serious nature. The plan extends for a full calendar year commencing with the first day of the academic year.

A detailed brochure of the services offered by the University Health Services as well as an outline of the details of the plan is mailed to students annually. Students and parents are urged to read this brochure carefully and keep it for reference. This brochure includes a statement of patients' rights in Health Services.

Whereas situations not covered within the Health Services or by the Insurance Plan are infrequent, an awareness of these possibilities will lessen misunderstanding and disappointment.

In such instances, students and their parents are responsible for expenses which are not covered by the University's health program or its associated insurance policy. Similarly, students and their parents are responsible for expenses which are not covered by alternative insurance programs substituted for the Brandeis University Student Health Insurance Plan.

### Psychological Counseling Center — Mailman House

The Psychological Counseling Center, a part of the University Health Services, is located in Mailman House. At the Center, a professionally trained staff provides a range of counseling and psychological services designed to enhance personal development of students and to assist those who are experiencing personal or emotional problems. Individual counseling and brief psychotherapy are available both to undergraduate and graduate students; group therapy is also available on a limited basis. Students can make an appointment to see a counselor by applying directly to the Counseling Center office on the second floor of Mailman House.

### Office of International Programs

The staff of the Office of International Programs serves as counselors and advisors to foreign citizens at Brandeis, including graduate and undergraduate students and foreign faculty. It aids the students and faculty in fulfilling the legal procedures required by the United States Immigration and Naturalization Service, i.e., obtaining extensions of stay, special permits to work and the proper documents for leaving and re-entering the country. The office coordinates the Brandeis host family program and provides assistance and referral services through the year.

The office also provides counseling services for Brandeis undergraduates and graduate students who seek to enrich their education through a period of study abroad. It also maintains a resource library of materials on available programs. The office provides information and assistance in obtaining foreign study grants available through Fulbright, Rhodes, D.A.A.D., Marshall and other scholarship and fellowship programs.

## Academic Schools, Research Centers and Institutions

### English as a Second Language Program

International graduate students whose native language is not English are required to take the Diagnostic English Proficiency Examinations and to have an oral interview approximately one week before the beginning of classes. Prospective teaching assistants may be asked to give an oral presentation as well. On the basis of the examinations and the interview, a student may be required to enroll in the English as a second language program.

The English as a second language program provides tutorial and/or small class instruction throughout the academic year. The aims of the program are twofold: (1) to support all international graduate students in their efforts to achieve the high standards of oral and written English proficiency necessary for their success as students and (2) to support international teaching assistants in their efforts to develop the strong oral communications skills essential to their effectiveness as teachers.

Assignment to classes and/or a tutorial is dependent upon the student's skill in English as determined by the results of the test administered on admission. For students who have been awarded a teaching assistantship in their first year of study or expect to teach in a future year and whose English does not meet the university's minimum standard of proficiency, these courses are mandatory. For all others, it is recommended but not required.

No course credit toward the advanced degree is earned for these courses.

### Crown School of Graduate Studies in American Civilization

The school's primary objective is to support gifted students in their work toward a doctorate in the History of American Civilization. Crown Fellowships are granted occasionally to special students on the Brandeis campus from both the United States and abroad who are drawn from important facets of public life including the media and the foreign service.

### Danielsen School of Philosophy, Ethics and Religious Thought

The school includes the Department of Philosophy, which places traditional emphasis on logic, epistemology, metaphysics, value theory and the history of philosophy. The advancement of philosophical thought in the context of contemporary issues is encouraged through scholarly and interdisciplinary approaches. One of several endowed professorships in the school is the Albert V. Danielsen Chair in Christian Thought.

### Fierman School of Chemistry

The school of chemistry offers highly diverse and advanced activities in inorganic, organic and physical chemistry. The school has been aided by grants from the National Institutes of Health, National Science Foundation, Department of Energy, Research Corporation and Petroleum Research Foundation. Research conducted under these agencies has been published in over 1,400 papers in leading professional journals.

### Fisher School of Physics

The school of physics encompasses both theoretical and experimental physics on the graduate and undergraduate levels as well as a new program in engineering physics, and provides a setting for lectures and colloquia. Grants from agencies including the National Science Foundation and the Department of Commission support research programs in the Fisher School.

### Kutz School of Biology

The school embodies the University's undergraduate and graduate biology departments. The curriculum is designed to teach at the molecular and cellular levels, and to present a comprehensive body of courses with special attention to current discoveries and experimentation. Students are encouraged to engage in original research and independent study. A major portion of the governmental, industrial and private research grants awarded to Brandeis is devoted to varied projects in biology and health sciences.

### Lown School of Near Eastern and Judaic Studies

The school encompasses an intensive teaching and research program in all the main areas of Judaic Studies, the Ancient Near East and the Modern Middle East. In addition, the Lown School has programs which prepare students for Jewish communal service and programs of research in areas of direct concern to the American Jewish community.

The Department of Near Eastern and Judaic Studies is the primary teaching and research unit in the Lown School. In this department the University has assembled an unusual array of distinguished scholars who offer an extremely broad curriculum. A second unit in the Lown School is the Benjamin S. Horstein Program in Jewish Communal Service which provides graduate education for students interested in professional careers in Jewish communal service and Jewish education. The school also includes the Center for Modern Jewish Studies which is devoted to the study of contemporary Jewish life. The center currently engages in research and teaching in three major areas: population studies, Jewish identity and the family.

### Benjamin Michtom School in Computer Science

This school encompasses a recently expanded, state-of-the art, computer science program incorporating undergraduate and graduate instructional and internationally recognized research programs in the areas of computer science of theory, languages, systems and artificial intelligence. The computer science department, interdisciplinary in setup, fosters links on campus between the mathematics and physics departments as well as the Cognitive Science Program.

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## Rosenstiel Basic Medical Sciences Research Center

The center is one of the nation's leading centers for research programs in the basic medical sciences embracing work in biochemistry, biology, chemistry, microbiology, physics, biophysics and immunology. Staff members are jointly appointed to the Brandeis faculty basic science departments. The center invites participation of distinguished scholars and medical scientists, offers hospitality to younger researchers at the undergraduate and fellowship level, sponsors symposia and colloquia and underwrites scholarly publications.

The Rosenstiel Basic Medical Sciences Research Center contains sophisticated scientific equipment and facilities. Through cooperative programming, both with departments at Brandeis and in the Boston area, the center has broadened the scope of basic medical science research offerings at Brandeis. Grants from such agencies as the National Science Foundation, National Institutes of Health and American Cancer Society, among others, support research programs in the Rosenstiel Center.

The center sponsors the annual presentation of the Lewis S. Rosenstiel Award to recognize distinguished work in basic medical research.

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## The Tauber Institute for the Study of European Jewry

The Tauber Institute for the Study of European Jewry seeks to study the history and culture of European Jewry in the modern period. It has a special interest in studying the causes, nature and consequences of the European Jewish catastrophe and seeks to explore them within the context of modern European diplomatic, intellectual, political and social history. The Tauber Institute for the Study of European Jewry is organized on a multidisciplinary basis with the participation of scholars in history, Judaic studies, political science, sociology, comparative literature and other disciplines. The institute is engaged primarily in research. Its government includes a distinguished Board of Overseers which advises the director and works closely with the University. Members of the institute include fellows, faculty advisors, associates and graduate students.

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## Swig School of Political Science

The school, which includes the University's Department of Politics, offers a wide range of courses in American government, international relations, theory, methodology and comparative politics.

Several endowed academic chairs in the school include the Harry S. Truman Chair in American Civilization; the Earl Warren Chair in American Constitutional Studies; the Christian A. Herter Chair in International Relations; and the Adlai E. Stevenson Chair in International Politics.

## Areas of Study and Courses — 1987-1988

All courses meet for three hours a week unless the course description indicates otherwise. The presence of "a" or "b" in the course number indicates a semester course; "c" indicates a full year course given in either the fall or spring term; "d" indicates a full year course; the use of "e" after a course number indicates that the course is given as a semester course but meets throughout the year.

The University reserves the right to make any changes in the offerings without prior notice. Faculty and course listings are accurate as of June 1, 1987.

## American Civilization

See History of American Civilization

## Anthropology

### Objectives

The graduate program in anthropology, leading to the degree of Doctor of Philosophy, is designed to produce scholars who will broaden our knowledge of culture and society. Admission is limited to students whose primary interests lie within the fields of social and cultural anthropology or archaeology. Most graduates of the program accept appointments at colleges and universities, although a number take employment in government, private institutions or foundations. Intensive training for independent research is stressed, with particular emphasis on comparative studies and fieldwork.

### Admission

The general requirements for admission to the Graduate School, given in an earlier section of this catalog, apply to candidates for admission to this area of study. Students need not have an undergraduate major in anthropology or sociology-anthropology. If admitted, however, the student without previous training in anthropology may be required to take additional courses, as determined by the department, to complete his or her residence requirements. Students should have a reading knowledge of one foreign language.

### Faculty

**Associate Professor Judith T. Irvine,** Chair: Ethnography of communication, Linguistics. Social stratification. Africa.

**Professor George L. Cowgill:** Mathematical and computer methods in archaeology. Mesoamerican civilizations. Origins of early states. Population anthropology.

**Professor David Kaplan:** Economics. Method and theory. Peasant cultures. Middle America.

**Associate Professor Robert C. Hunt:** Social anthropology. Modernization. Irrigation agriculture. Mesoamerica.

**Associate Professor David E. Jacobson:** Social anthropology. Medical anthropology. Support systems. U.S.A. Africa.

**Associate Professor Benson Saler:** Comparative religion and folk philosophies. Psychological anthropology. Mesoamerica. South America. Pastoral peoples.

**Associate Professor Robert N. Zeitlin:** Sociocultural evolution. Prehistoric exchange. Pre-state societies. Archaeological method and theory. Mesoamerica.

**Assistant Professor D. Neil Comberg:** Physical anthropology. Comparative anatomy. Primate studies. Human evolution.

**Assistant Professor Pierre-Yves Jacquin:** Myth and ritual. Social organization. Symbolic anthropology. Cross-cultural child psychology. Egalitarian societies. South America. Europe.

**Assistant Professor David W. Murray:** Social and cultural anthropology. Symbolic anthropology. Linguistics. North American Indians.

**Assistant Professor Judith F. Zeitlin:** Cultural ecology. Archaeological method and theory. Mesoamerica. Ethnohistory.

**Lecturer Charles A. Ziegler:** Industrial and applied anthropology.

## Research Associates

**George N. Appell**  
Social anthropology.  
Southeast Asia.

**Barbara B. Swann**  
Kinship, Bureaucracy  
and local policies.  
Comparative  
government. East Asia  
and the Pacific.

**Clemency Coggins:**  
Prehistoric art and  
archaeology of  
Mesoamerica, lower  
Central America and  
Peru.

**Michael Folsom:**  
Industrial archaeology.  
New England.

**Wilma Wetterstrom:**  
Archaeology. Cultural  
ecology. Ethnobotany  
and nutrition.

will attain a high degree of scholarly competence in at least one culture area and one topical field study.

The department may, at its discretion, grant a student transfer credit for graduate courses completed with a "B" grade or better at another accredited institution. Requests for transfer credit will not be considered, however, until at least one semester of study has been completed at Brandeis. Prior approval is not needed for courses taken at Boston College, Boston University and Tufts University, for which formal cross-registration arrangements are in effect. In any case, a maximum of one year of residence credit is allowed by the Graduate School for work completed elsewhere.

## Degree Requirements

### Master of Arts

Ordinarily students are admitted for the doctoral program only. However, the Master of Arts degree in anthropology will be awarded to those students who have successfully fulfilled the minimum residence requirements set by the Graduate School and have met the following requirements: 1) of the eight semester courses to be completed satisfactorily, one must be the first segment of the linguistics sequence, and one must be either of the special graduate courses in archaeology or physical anthropology; 2) if the student will not be continuing toward a Ph.D., he or she must also pass an M.A. qualifying examination, must demonstrate reading proficiency in a foreign language and must submit an acceptable master's thesis (for doctoral students, the Specialist Essay, described below, may substitute for the thesis component in the awarding of an M.A.).

### Qualifying Examination.

At the end of 16 semester courses, students take a General Examination which tests for overall mastery of the subject matter. Upon passing the General Examination, work begins on a Specialist Essay, normally focused on theoretical and/or topical issues of relevance to the forthcoming dissertation. The purpose of the Specialist Essay is to demonstrate a capacity for independent research of high quality. By the end of the third year of study, the essay should be complete, language requirements satisfied and a proposal for dissertation research drawn up.

### Language Requirement.

A reading knowledge of at least one foreign language must be demonstrated by examination and by writing a research paper or dissertation in which sources in the chosen language contribute to the research. The examination part of this requirement must be passed before the student may be admitted to candidacy for the Ph.D.

### Doctor of Philosophy Program of Study.

Flexibility of curriculum enables the student to organize a program of study around his or her particular anthropological interests. At the same time, the doctoral program is structured so that a broad familiarity with other aspects of the discipline is achieved.

At the outset an advisor is assigned each matriculant, but by the end of the second semester of study a student is expected to recruit two members of the faculty for a permanent advisory committee. In soliciting potential committee members, the student should be guided by interest and specialization. Once established, the committee is responsible, through regular meetings and informal consultation, for 1) guiding the student in the selection of suitable courses, 2) providing advice in the formulation of a dissertation research project and 3) supervising the student's progress through the program.

With respect to formal course requirements, all students not exempted by virtue of previous graduate training must complete the four core courses in social organization and anthropological theory, a special one-semester seminar in archaeology, another in physical anthropology and a two-semester course sequence in anthropological linguistics. Students concentrating in archaeology may substitute the one-semester course for the linguistics (Linguistics 102) requirement. Through course work and outside reading it is expected that students

### Summer Training Program.

Contingent upon the availability of funding, a program of fieldwork under faculty supervision is carried out during the summer following a student's first year of residence.

### Admission to Candidacy.

A student is admitted to candidacy for the Ph.D. upon satisfactory completion of 1) sixteen semester courses, including all the required courses, 2) the General Examination in anthropology, 3) a reading examination in a foreign language and 4) the Specialist Essay.

### Dissertation Research.

As soon as possible after admission to candidacy, the student should begin at least a full year of research consisting of fieldwork and/or laboratory analysis. In exceptional cases library research may be substituted. This research forms the basis for a doctoral dissertation.

### Dissertation and Defense.

The department will recommend to the dean of the Graduate School that a Ph.D. be awarded the candidate upon formal acceptance of a dissertation and after its successful defense in a Final Oral Examination. Details of the regulations for certifying approval of the dissertation and for the Final Oral Examination are found in earlier pages of this catalog.

## Courses of Instruction

<b>Anthropology 101b. Medical Anthropology</b>	The purpose of this course is to study the relationship between stress and mental health and physical well-being. It will look at the connection between stressful experiences and the "natural" support systems for those undergoing transitions such as becoming a parent, losing a job, getting divorced, entering college and bereavement. The conditions which influence the availability and use of support will be considered. Important aspects of this course will be to discuss the concepts of stress and support and to review research concerning relationships between crises, support and coping behavior.	<b>Anthropology 107a. Human Disease Ecology</b>	This course is a general treatment of medical ecology. Topics include a basic introduction to epidemiology, disease evolution, disease and development, and malnutrition and disease. Special attention will be paid throughout the course to the interaction of culture and disease, and several examples of changing patterns of disease associated with cultural change will be examined in detail.
	Usually offered every year.  Mr. Jacobson		Usually offered in even years.  Mr. Gomberg
<b>Anthropology 102a. An Anthropological Introduction to Language</b>	A general introduction to anthropological perspectives on language. Topics will include: the organization of language as a communicative system; language in human evolution; linguistic approaches to cultural meaning and world-view; historical perspectives on language (language change, history and pre-history).	<b>Anthropology 108b. Greek Mythology</b>	Initiation into the fantastic world of Greek mythology. Studying a wide range of myths, many unfamiliar and not in literary sources, this course will introduce procedural and conceptual tools to reveal their symbolic meaning. The myths will be situated in their proper cultural, aesthetic and historical contexts. The course ends with the contribution of Greeks to the end of mythological thought and the birth of scientific thought.
	Usually offered every year.  Ms. Irvine		Usually offered in even years.  Messrs. Jacopin and Muellner
<b>Anthropology 102b. Social and Cultural Aspects of Linguistic Analysis</b>	Advanced topics in anthropological linguistics. The course will focus on three areas: 1) linguistics fieldwork and the analysis of unfamiliar language; 2) linguistic variation and social structure; 3) current issues in semantics and pragmatics (the relation between meaning and use in cross-cultural perspective).	<b>Anthropology 110a. Introduction to Human Evolution</b>	Usually offered in even years.  Mr. Gomberg
	Usually offered in odd years.  Ms. Irvine	<b>Anthropology 111a. Introduction to Primate Studies</b>	An introduction to the study of non-human primates paying special attention to studies of primates in their natural habitat. Topics focus primarily on the relationships of elements of an animal's feeding, social/maintenance and locomotor behavior to selected aspects of its environment.  Usually offered in odd years.  Mr. Gomberg
<b>Anthropology 103b. Language, Society and Culture</b>	A comparative study of social and cultural aspects of language. Topics to be explored include: what kinds of social groups contrast in their use of language? How does a person's speech contribute to the impression he/she makes on other people? How is conversation organized, and to what purpose? Students conduct a fieldwork project on speech in their own social milieu.	<b>Anthropology 113a. Human Variation</b>	An introduction to human biological variation. Differences between individuals and populations within human species in biological characteristics (body build, blood groups, skin color) will be analyzed using an adaptive approach. The utility of the racial model to understanding human variation will be evaluated and compared to that of other approaches. Several politically and socially controversial topics relating to human variation (race and IQ., sociobiology) will be discussed in the semester.
	Usually offered every four years.  Staff		Usually offered every three years.  Mr. Gomberg
<b>Anthropology 104b. Conflict in Central America</b>	An anthropological perspective on some contemporary issues in Central America.		
	Usually offered every four years.  Mr. Jacopin		
<b>Anthropology 106b. Friendship</b>	Usually offered in even years.  Mr. Rubin		

<b>Anthropology 115b. Biocultural Adaptation</b>	An advanced course dealing with human adaptation with particular emphasis on the interaction of elements of the biological and cultural adaptive system in human societies.  Usually offered in odd years.  Mr. Gomberg	<b>Anthropology 128b. The Provisioning of Cities</b>	That cities must be provisioned with food, water and fuel is self-evident; how they do it is not. Successful and sustained provisioning is a complex system of ecological, political, economic, social and cultural constraints and implications. In this course specific attention is paid to agricultural productivity, the technology of storage and transport, urban-rural terms of trade, and the very complex mixtures of distribution systems in cities. The mutual relevance of the various problems and their solutions is stressed. We will use concepts from several disciplines, and data from many times and places, including classical Rome, West Africa, colonial Mexico and modern times.  Usually offered in even years.
<b>Anthropology 116a. Human Osteology</b>	This course is an introduction to human musculo-skeletal anatomy. After learning the names and locations of the major bones and muscle groups, the manner in which these anatomical structures interact to produce movement will be examined. Movements at each of the major joints of the human body will be discussed and integrated into an analysis of human locomotion and posture.  Usually offered in even years.  Mr. Gomberg	<b>Anthropology 129b. The Evolution of Culture and Society</b>	Past and present ideas about evolution are examined and their utility for explaining social and cultural changes are evaluated. Examples illustrating the use of evolutionary models will be drawn from anthropological studies in both recent and ancient times.  Usually offered every third year.
<b>Anthropology 118b. History of Anthropological Theory</b>	Usually offered every fourth year.  Mr. Murray		Mr. R. Zeitlin
<b>Anthropology 119a. Conquest and Colonialism in Native Latin America</b>	An often overlooked topic in Latin American studies is an examination of the impact that Spanish and Portuguese colonialism has had on the inhabitants of the Americas. Within a hundred years after the Conquest, the once dense Indian populations had been reduced by as much as 90% and great imperial states like those of the Aztecs and Incas were transformed into a subjugated peasantry. In this course we will trace the historical development of post-Conquest Indian society, from the policies and cultural institutions of Iberian colonialism through the complex ethnic and economic interactions of different native groups within the modern nation states of lowland South America living on the last frontier of colonialism.  Usually offered every third year.  Ms. J. Zeitlin	<b>Anthropology 136b. Magic, Witchcraft and Religion</b>	An introduction to various attempts to characterize magic, witchcraft and religion and to theorize about their roles in human life. Among the questions discussed are these: What is usually meant by magic and why do people sometimes engage in practices that we label as magical? What roles do ideas about witchcraft and accusations of witchcraft sometimes play in social life and how do we account for those ideas and accusations? And what are some of the problems attendant on defining religion and on attempting to theorize about its origins and functions?  Usually offered every year.
<b>Anthropology 120b. The Anthropology of Law</b>	A comparative study of the relationship between law, society and culture, including the socio-cultural contexts in which various types of legal institutions, procedures, rules and concepts are found and the relationships between the law and change.  Usually offered every year.  Staff	<b>Anthropology 137a. Modes of Thought</b>	Mr. Saler
<b>Anthropology 123a. Directions and Issues in Archaeology</b>	Usually offered in even years.  Mr. R. Zeitlin	<b>Anthropology 140a. Pre-history of North American Indians</b>	An exploration of world views among literate and non-literate peoples with reference to the roles of social structure, language, literacy and experience in the development of ideas about reality and with regard to criteria suggested for evaluating the "rationality" of belief statements and behavior.  Usually offered every year.
<b>Anthropology 125b. Investigations in an Unfamiliar Language</b>	See Linguistics 122b for description.  Usually offered in even years.  Mr. Prince	<b>Anthropology 141b. North American Indians</b>	Mr. R. Zeitlin
			Usually offered every fourth year.  Mr. Murray

<b>Anthropology 143a. The Inca and Their Ancestors: Ancient Civilizations of South America</b>	From Voltaire to Marx and Engels, political theorists have often regarded the ancient Inca Empire as a unique experience in utopian socialism. Modern scholars are more inclined to trace many of its basic features back to earlier prehistoric civilizations, where fundamental Andean social and economic institutions first arose. In this course we will use archaeological and ethnohistory data to explore the historical development of these Precolumbian cultures of the Andes and neighboring regions of South America, examining in particular their unique adaptations to the continent's diverse environments, their cultural and social achievements, and the basis for their political unification in the Inca Empire.	<b>Anthropology 151a. Social Organization I</b>	Theories of social organization, the interrelations of social institutions, current anthropological methods of interpretation and analysis.
	Usually offered every fourth year.		Usually offered in even years.
	Ms. J. Zeitlin		Mr. Hunt
<b>Anthropology 146a. Landscapes, Life and Climates of the Past</b>	An introduction to prehistoric human ecology, the course examines how people in the past interacted with the natural world and how it in turn shaped them. Using case studies, the course surveys the methods archaeologists use for reconstructing climates, flora, fauna and land formations. Most class sessions will be run as workshops or laboratories.	<b>Anthropology 151b. Social Organization II</b>	A continuation of 151a. This course will emphasize structural analysis. Designed primarily for advanced undergraduate and graduate students.
	Usually offered every fourth year.		Usually offered in even years.
	Staff		Mr. Jacopin
<b>Anthropology 147b. The Rise of Mesoamerican Civilization</b>	We will examine the area of ancient high civilization lying between what is now Mexico and western Central America. From simple ice age beginnings to an abortive end through Spanish conquest, Mesoamerican civilization has been a subject of intense fascination to scholars interested in the development of complex societies. The course considers ways that environment, population growth, social structure, religion, ideology and other factors may have been related to the unprecedented achievements of its indigenous peoples—the Olmec, Teotihuacan, Maya, Zapotec, Aztec and others. In so doing, we may gain a better appreciation of the processes leading to the rise and decline of civilization everywhere.	<b>Anthropology 154b. Selected Topics in Comparative Religion: Seminal Works in the Study of Religion</b>	An exploration of world view and ritual both in "world" or "historical" faiths (such as Buddhism and Islam) and in so-called "primitive" societies with reference to theories concerning the origins and functions of religion.
	Usually offered every third year.		Usually offered in even years.
	Mr. R. Zeitlin		Mr. Saler
<b>Anthropology 148a. Rise, Function and Fall of Early Civilizations</b>	Usually offered every fourth year.	<b>Anthropology 155b. Psychological Anthropology</b>	An examination of the relationships between sociocultural systems and individual psychological processes with a critical evaluation of selected theories and studies bearing on this problem.
	Mr. Cowgill		Usually offered every fourth year.
<b>Anthropology 150a. Spatial Analysis in Archaeology</b>	Techniques for identification of within—and between-site spatial patterns in archaeological materials, and approaches to their sociocultural interpretation. Substantial archaeology background is expected of students.	<b>Anthropology 158a. Urban Anthropology</b>	Comparative study of strategies used in coping with the complexity and potential danger of urban life. Attention will also be given to analyzing and evaluating the theories, methods and data anthropologists and others use in their studies of urban social organizations.
	Usually offered in even years.		Usually offered in even years.
	Mr. Cowgill		Mr. Jacobson
<b>Anthropology 148b. Selected Topics in Urban Anthropology</b>	Usually offered in even years.	<b>Anthropology 161b. Culture and Cognition</b>	What relationship is there between cognitive processes and cultural systems? Do cultural differences involve or affect people's perception, classification process, memory or modes of problem-solving? Do they affect the course of cognitive development? This course will examine cross-cultural research in psychology and anthropology that attempts to answer these questions. Special attention will be given to the role of language, to the relation between magic and science, and the cognitive effects of literacy.
	Mr. Jacobson		Usually offered every year.
<b>Anthropology 158b. Selected Topics in Urban Anthropology</b>	Usually offered in even years.		Mr. Murray

<b>Anthropology 162a. Anthropology and Psychoanalysis</b>	<p>Survey of psychoanalytic theories advanced by Freud, Bettelheim, Röheim, Devereux and others regarding the idea of the unconscious. Using the experience of psychoanalytic therapy as our frame of reference, we will deal cross-culturally with infancy, initiation rites, funerals and myths. What is the contribution of psychoanalysis to an understanding of the relationship between the individual and society?</p>	<b>Anthropology 175b. Pro-Seminar in Method in Cultural Anthropology</b>	<p>The development of anthropological theory, major present-day trends and their relation to problems of research.</p> <p>Usually offered in odd years.</p> <p>Mr. Murray</p>
<b>Anthropology 163b. Economic Anthropology: Production and Distribution</b>	<p>All humans must equip and organize themselves to produce and distribute the necessities and luxuries of life. This course will sample different ways of producing and distributing food, tools, crafts and services. Most attention will be paid to "primitive" economies. The major property, work, surplus, scarcity, money will be emphasized.</p> <p>Usually offered in odd years.</p> <p>Mr. Hunt</p>	<b>Anthropology 186a. Mathematics and Computers in Archaeological Data Analysis I</b>	<p>A year long graduate lecture and laboratory course on the uses of mathematics, statistics and computer technology in the management and analysis of archaeological data. Topics include file processing, simple programming, statistical packages, basic descriptive statistics, research design and sampling, classification, seriation, spatial analysis, introductions to multivariate methods and to simulation, and uses and misuses of all these approaches for archaeological interpretation and theory building. Preference given to students with some background in computers, statistics, and/or college mathematics.</p> <p>Usually offered in odd years.</p> <p>Mr. Cowgill</p>
<b>Anthropology 164b. Corporate Cultures</b>	<p>The course examines the structure and internal dynamics of the modern corporation with special emphasis on corporate culture, i.e., the system of company-specific beliefs, values, norms, that underlies work-related behavior of members. Formal and informal aspects of corporate organization will be described and the developmental trajectory of the firm from start-up to maturity will be correlated with changes in corporate culture.</p> <p>Usually offered every year.</p> <p>Mr. Ziegler</p>	<b>Anthropology 186b. Mathematics and Computers in Archaeological Data Analysis II</b>	<p>A continuation of Anthropology 186a.</p> <p>Usually offered in odd years.</p> <p>Mr. Cowgill</p>
<b>Anthropology 166a. The Nature of Human Nature</b>	<p>This course will deal with various theories of human nature and the evidence for such theories. It will explore the way in which theories of the nature of man have figured in interpretations of culture. The course addresses the question: to what extent is culture the expression of nature and to what extent does it depart from nature?</p> <p>Usually offered every year.</p> <p>Mr. Salter</p>	<b>Anthropology 188a. Materials in Ancient Societies</b>	<p>A seminar and laboratory course meeting at MIT.</p> <p>Usually offered every year.</p> <p>Mr. R. Zeitlin and MIT Staff</p>
<b>Anthropology 171a. Cross-Cultural Inquiry in Social Science</b>	<p>Relativism is the fundamental problem of social science and all cross-system investigation must confront it. Insider-outsider,emic equivalence and other forms will be considered. The major solutions to the problem will be evaluated.</p> <p>Usually offered in even years.</p> <p>Mr. Hunt</p>	<b>Anthropology 222-259. Readings and Research Courses</b>	<p>Usually offered every year.</p> <p>Staff (at MIT)</p>
<b>Anthropology 175a. Pro-Seminar in Anthropological Theory</b>	<p>Analysis of representative classics in anthropology.</p> <p>Usually offered in even years.</p> <p>Mr. Jacobson</p>	<b>222a and b. Readings and Research on the World Before Civilization</b>	<p>See AMST for description.</p> <p>Usually offered every year.</p> <p>Mr. Folsom</p>
<b>Primarily for Graduate Students</b>			
<b>Anthropology 222-259. Readings and Research Courses</b>			
<b>222a and b. Readings and Research on the World Before Civilization</b>			
<b>Anthropology 223a. Reading in Culture Contact</b>			
<b>226a and b. Readings and Research in Archaeology</b>			

227a and b. <b>Readings and Research in Linguistic Anthropology</b>	Ms. Irvine	253a and b. <b>Readings and Research in Economic Anthropology</b>	Mr. Kaplan
228a and b. <b>Advanced Readings in Method and Theory</b>	Mr. Kaplan	254a and b. <b>Readings and Research in Southeast Asian Ethnography</b>	Mr. Appell
229a and b. <b>Guided Comparative and Historical Research</b>	Mr. Hunt	256a and b. <b>Readings and Research in Religion</b>	Mr. Saler
230a and b. <b>Readings and Research on Culture of Hunters and Gatherers</b>	Mr. Jacopin	259b. <b>Conceptions of Personhood</b>	Mr. Murray
231a and b. <b>Readings in Cognitive Culture</b>	Mr. Saler	Anthropology 300d. <b>Seminar in Anthropological Field Work</b>	Usually offered every year. Staff
232a. <b>Readings in Development</b>	Mr. Hunt	Anthropology 302d. <b>Summer Research Training</b>	Field work for three months during the summer under the supervision of a member of the staff. Staff
232b. <b>Readings in Housing</b>	Mr. Hunt		
233a and b. <b>Readings in Kinship</b>	Mr. Jacopin	Anthropology 304a and b. <b>Readings and Research in Anthropological Field Methods</b>	Staff
235a and b. <b>Readings and Research in Latin American Cultures</b>	Mr. Hunt	Anthropology 305d. <b>Anthropology Colloquium</b>	Staff
237a and b. <b>Readings and Research in African Cultures</b>	Ms. Irvine	Anthropology 401d-415d. <b>Dissertation Research</b>	Independent research for the Ph.D. degree. 411d. Ms. J. Zeitlin 412d. Mr. R. Zeitlin 413d. Mr. Comberg 414d. Mr. Jacopin 415d. Mr. Murray
238a and b. <b>Readings and Research in Urban Anthropology</b>	Mr. Jacobson	402d. Mr. Hunt 403d. Ms. Irvine 405d. Mr. Kaplan 409d. Mr. Saler	401d. Mr. Cowgill 402d. Mr. Jacobson 403d. Mr. Hunt 405d. Ms. Irvine 407d. Mr. Kaplan 409d. Mr. Saler
239a and b. <b>Readings and Research in North American Indians</b>	Mr. Murray		
240a and b. <b>Readings and Research in Medical Anthropology</b>	Mr. Jacobson		
241a and b. <b>Readings and Research in New World Ethnohistory</b>	Ms. J. Zeitlin		
242a and b. <b>Readings in the Anthropology of Art</b>	Mr. Jacopin		
245a and b. <b>Readings and Research in Physical Anthropology</b>	Mr. Gomberg		

# Biochemistry

## Objectives

The graduate program in biochemistry leading to the degree of Doctor of Philosophy is designed to equip students with a broad understanding of the chemistry involved in biological processes and to train them to carry out independent original research. Although students will be primarily responsible for a comprehensive understanding of biochemical phenomena, they will be encouraged to acquaint themselves with the disciplines of biology and chemistry. Research and experimental projects rather than formal course training will be emphasized. The student will, however, be required to take courses in advanced biochemistry, physical biochemistry, biochemical techniques, molecular biology and biochemistry seminars, as well as one advanced course in chemistry or biology. The choice of advanced biochemistry courses and those of other scientific disciplines (i.e., organic chemistry, genetics, embryology, etc.) are subject to the student's particular interests. The choice of research programs should be in areas under investigation by the faculty; some of these fields include metabolic regulation in normal and also tumor tissues, enzymology, immunochemistry, molecular

biology, molecular pharmacology, biochemical genetics, bacterial and phage genetics, physical chemistry of macromolecules, protein chemistry, plant and virus metabolism, problems in growth and differentiation, microbial metabolism, organic biochemistry, membrane transport and energy coupling mechanisms, application of NMR to biochemical problems, biochemistry of muscle and chromosome structure.

## Admission

The general requirements for admission to the Graduate School, given in an earlier section of the catalog, apply here. Applicants for admission to the biochemistry department are also required to take the Graduate Record Examination. It is strongly suggested that the applicant take one of the advanced sections (preferably chemistry or biology) of this examination. The student's undergraduate curriculum should include some fundamental courses in biology and chemistry.

## Faculty

**Professor Christopher Miller, Chair:**  
Cellular physiology and biophysics.  
Membrane transport and mechanisms of electrical excitation.

**Professor Robert H. Abeles:**  
Mechanism of enzyme action. Design of highly specific enzyme inactivators. Design of inhibitors with potential pharmacological significance. Mechanism of drug action.

**Professor Gerald D. Fusman:**  
Conformation of biological macromolecules. Chromatin structure, protein-DNA interactions. Protein models; synthesis and conformational studies of polyamino acids.

**Professor Thomas C. Hollcher, Jr.:**  
Role and mechanism of action of oxidation-reduction enzymes. Mechanism, enzymology and pathway of nitrogen in denitrification and nitrification.

**Professor William P. Jencks:**  
Mechanisms of reactions catalyzed by enzymes, coenzymes, and by chemical catalysts. Mechanisms, catalysis and equilibria of reactions of "energy-rich" compounds of importance in biochemistry and chemistry. Mechanisms of conversion of chemical energy into osmotic and mechanical work.

**Professor Lawrence Levine:**  
Immunochemistry. Antibodies as analytical reagents for measuring pharmacologically important molecules. Mechanisms of arachidonic acid metabolism by cells in culture.

**Professor Irwin B. Levitan:**  
Neurobiology. Neurobiochemistry. Regulation of neuronal membrane properties.

**Professor John M. Lowenstein:**  
Role of phospholipids in hormone action. Regulation of metabolic pathways. Regulation and function of the purine nucleotide cycle; regulation of adenosine production in heart.

**Professor Susan Lowey:**  
Structure and function of myofibrillar proteins and their relation to the muscle cell. Techniques will include physical chemistry, protein chemistry, fluorescence and electron microscopy.

**Professor Alfred G. Redfield:**  
Magnetic resonance in biopolymers. Physical biochemistry.

**Professor Robert F. Schleif:**  
Molecular genetics. Mechanism of gene regulation as studied by genetic, physiological and physical chemical means.

**Professor Helen Van Vunakis:**  
Interaction of hallucinogenic, narcotic and carcinogenic compounds with specific antibodies and natural receptors. Nicotine metabolism and physiological effects.

**Professor Pieter Wensink:**  
Molecular biology. Gene expression during development of higher organisms. The physical arrangement of genes within the DNA and the chromosomes of higher organisms.

**Associate Professor William T. Murakami:**  
Biochemistry of virus infection. Metabolism of virus-infected cells. Purification and characterization of polyoma viruses.

**Professor Serge N. Timasheff:**  
Physical chemistry of proteins, in particular, structure in solution and self-associations; self-assembling systems; ligand-mediated interactions; macromolecular properties of biological polymers.

**Assistant Professor Michael J. Newman:**  
Regulation of growth and transformation of mammalian cells. Mechanisms of action of normal and transforming growth factors. Mechanism and regulation of solute transport to bacterial and mammalian cells.

**Assistant Professor Michael Worington:**  
Molecular biology. Developmental regulation of eukaryotic gene expression. Control of mitochondrial transcription.

## Degree Requirements

### Doctor of Philosophy

#### Program of Study.

Each doctoral candidate must satisfactorily complete the following fundamental courses: advanced biochemistry, biochemical techniques, physical biochemistry and biochemical research problems, and four of the biochemistry seminars.

#### Financial Support.

Graduate students currently receive financial support for a period of four years. Support for the fifth year or beyond is arranged with the research supervisor. The initial four-year support is contingent upon teaching for a maximum of two semesters. Teaching does not require laboratory supervision.

#### Language Requirement.

There is no foreign language requirement for the Ph.D. degree.

#### Qualifying Examinations.

An oral qualifying examination must be taken generally at the beginning of the second year. In this examination, the student will be asked to defend or refute two propositions. One proposition will be assigned in an area of research outside the student's immediate area of specialization, and one will be an original proposition put forth by the student for a research problem in his or her area of interest (this is not necessarily a problem upon which he or she will carry out research).

In addition, the student will have an opportunity to demonstrate general knowledge of biochemistry in a series of three area examinations: physical biochemistry and

macromolecules, metabolism and enzymology, and molecular biology. Students are expected to have taken three examinations by the end of the third year; two of these must be taken by the end of the second year. This general knowledge outside the student's own field of specialization must be demonstrated to the satisfaction of an advisory committee of four department faculty members.

At this time it will be decided whether a student will continue working towards the Ph.D. degree or a Master of Arts degree.

#### Admission to Candidacy.

At some time before the second semester of their third year, students will present to a committee of four members of the department a summary of their research accomplished to date, including the most significant experimental data and detailed plans for the completion of a research project. The committee will recommend whether the research project should be continued as a partial fulfillment of the requirements for the Doctor of Philosophy degree. After completion of the research report and the three area examinations at a level satisfactory for the Ph.D. degree, the student will be admitted to candidacy.

#### Dissertation and Defense.

A dissertation will be required which summarizes the results of an original investigation of an approved subject and which demonstrates the competence of the candidate in independent research. This dissertation will be defended in a Final Oral Examination.

## Courses of Instruction

<b>Biochemistry 100a. Introduction to Biochemistry</b>	Chemistry, reaction and metabolism of biologically important compounds. Formation and utilization of "energy-rich" compounds. Introduction to enzyme mechanisms. An attempt will be made to interrelate and compare basic biochemical and chemical processes. Metabolic regulation.	<b>Biochemistry 106b. Regulation of Cellular Growth and Differentiation</b>	This course will examine the biochemical mechanism involved in the regulation of cellular proliferation and differentiation. We will discuss the role of extracellular growth factors, and the mechanisms of signal transduction in the control of the cell cycle. The genetic basis of differentiation, including the role of oncogenes in normal development and neoplasts will be addressed.
	Usually offered every semester.		Usually offered every year.
	Prerequisites: Chemistry 25a and b.		Messrs. Newman and Wormington
	Section 1, Fall: Mr. Hollocher		
	Section 2, Fall: Mr. Lowenstein		
	Section 1, Spring: Mr. Murakami		
<b>Biochemistry 101a. Advanced Biochemistry</b>	A discussion of enzyme reactions including energetics, kinetics and reaction mechanism. Metabolism of carbohydrates, lipids, amino acids, nucleic acids, vitamins and coenzymes, hormones and inorganic substances. Coupled enzyme reactions, such as oxidative phosphorylation, and the synthesis of macromolecules such as glycogen, protein and the nucleic acids. Regulated enzymes and regulation of metabolism.	<b>Biochemistry 142a. Neurochemistry and Cellular Neurobiology</b>	This course will present the basic concepts of neurochemistry and neurobiology. Topics to be covered will include the cellular anatomy of the nervous system; intercellular communication between neurons, transmitter biochemistry, ion channels and pumps, membrane structure and function, molecular mechanisms of transduction of electrical signals, and the neurochemistry of higher functions and mental disorders.
	Usually offered every year.		Usually offered every year.
	Messrs. Abeles, Jencks and Hollocher		Mr. Levitan
<b>Biochemistry 101b. Advanced Biochemistry I</b>	A continuation of Biochemistry 101a.	<b>Biochemistry 200d. Biochemistry Techniques</b>	Prerequisite: Biochemistry 101. May be taken concurrently.
	Usually offered every year.		Usually offered every year.
	Messrs. Abeles, Jencks, Miller and Lowenstein		Mr. Schleif
<b>Biochemistry 103a. Advanced Molecular Biology</b>	The fundamental principles of molecular biology will be stressed with respect to nucleic acid biosynthesis, structure and physiological involvement. In addition, a description of events dealing with control of genetic information will be outlined.	<b>Biochemistry 202b. Chemistry of Enzyme-Catalyzed Reactions</b>	This course will deal with reaction mechanisms of catalysis in aqueous solution, some of which are relevant to enzymatic catalysis.
	Usually offered every year.		Usually offered in even years.
	Mr. Schleif		Mr. Jencks
<b>Biochemistry 104b. Introduction to Physical Biochemistry</b>	Discussion of physical methods; molecular interactions; solvent effects; principles of folding; structural and conformation analyses by various spectroscopic and x-ray techniques.	<b>Seminars</b>	
	Usually offered every year.		One or two seminars will be given each semester. Each student will present an oral and written report on one aspect of the announced seminar topic. Topics are rarely repeated from year to year.
	Mr. Timashoff	<b>Biochemistry 213b.</b>	Topic to be announced.
			Staff
		<b>Biochemistry 218a.</b>	Topic to be announced.
			Staff
		<b>Biochemistry 219b.</b>	<b>Novel Bacterial Enzyme Systems</b>
			Mr. Hollocher
		<b>Biochemistry 221b.</b>	Topic to be announced.
			Staff

**Biochemistry  
401d-420d.  
Biochemical  
Research Problems**

Independent research for the Ph.D. degree.  
401d. Mr. Jencks      413d. Mr. Hollocher  
402d. Mr. Levine      414d. Mr. Murakami  
404d. Mr. Timashoff    415d. Mr. Schleif  
405d. Mr. Abeles       416d. Mr. Redfield  
406d. Mr. Pasman      417d. Mr. Wormington  
407d. Mr. Lowenstein   418d. Mr. Miller  
408d. Mr. Wensink      419d. Mr. Levitan  
409d. Ms. Lowey       420d. Mr. Newman  
411d. Ms. Van Vunakis

**Journal Club,  
Colloquia and  
Research Clubs**

In addition to the formal courses announced above, all graduate students are encouraged to participate in the department's Journal Club and colloquia. The Journal Club is an informal meeting of the students, staff and post-doctoral fellows, at which recent publications are discussed. Colloquia are general meetings of the department in which both speakers from the department and guest speakers will present their current investigations. Research clubs are organized by various research groups of the department.

# Biology

## Objectives

The graduate program in biology is designed to encourage and train students to develop their abilities to carry out independent and original research. Each student is expected to become familiar with the major areas of research currently being conducted within the department: molecular genetics and development, neurobiology, immunology, and cell and structural biology. In addition to a flexible curriculum of courses, designed for each student's specific program, entering students begin a series of laboratory rotations to acquaint themselves with current research techniques and to explore possible areas of thesis research. Students also are given opportunities to develop their confidence and ability to make oral presentations, beginning in the first year with a proseminar designed to discuss research methodology and continuing through a series of journal clubs. Each advanced student also presents an annual summary of his or her own research to the department. Research leading to a Ph.D. degree is carried out under the direction of one of the 21 members of the biology faculty. Areas of research include: molecular biology of the regulation of gene expression, especially during development; chromosome structure and chromosomal rearrangements; developmental genetics; behavior genetics and neural development; biophysics of single nerve cells; integration of neural function; immunogenetics; immune cell differentiation and development; molecular biology of the immune system; regulation of muscle contraction; molecular and cell architecture; organization of subcellular structures. A complete list of faculty research interests is available from the Department of Biology.

## Admission

The general requirements for admission to the Graduate School, given in an earlier section of this catalog, apply to candidates for admission to this area of study. The student's undergraduate record should ordinarily include courses equivalent to those required of undergraduates concentrating in biology at this institution. These are: general biology, genetics, cell physiology, developmental biology, and at least two additional elective courses. Students who are deficient in some of these subjects, but whose records are otherwise superior, may make up their deficiencies while they are enrolled as graduate students. In exceptional cases, students may be excused from some of these requirements. Students with serious deficiencies must, however, expect to add additional time to their graduate program in order to satisfy the deficiencies.

It is strongly recommended that applicants take the Graduate Record Examination.

On being admitted to the biology department, graduate students will report to the temporary graduate student advisor who will assist the student with formal entry into the department and later with their programs.

An important part of graduate training consists of laboratory experience. Since the summer months provide an opportunity for such work, unbroken by courses and other responsibilities, it is customary for graduate students to spend their summers doing research. In recognition of this, the biology department provides summer stipends for its full-time graduate students.

## Faculty

**Professor Kenneth C. Hayes**  
(Director, Foster Biomedical Research Laboratory), Chair: Comparative nutritional pathophysiology in man and animals. Lipoprotein metabolism and atherogenesis, cholelithiasis.

**Professor Carolyn Cohen**  
(Rosenstiel Center): Structural molecular biology.

**Professor David J. DeRosier**  
(Rosenstiel Center): Structural studies of macromolecular complexes. Electron microscopy and image analysis applied to actin and actin-containing assemblies, bacterial flagella and multienzyme complexes.

**Professor Herman T. Epstein:**  
Developmental changes in the brain in relation to learning in man and mouse.

**Professor Chandler M. Fulton:**  
Cell differentiation and selective gene expression in eukaryotic cells. Morphogenesis of cell shape and cell organelles, especially flagella.

**Professor Martin Gibbs:**  
Photosynthesis and plant physiology.

**Professor James E. Haber**  
(Rosenstiel Center): Genetic and molecular biology of yeast Saccharomyces cerevisiae. Mechanism of recombination; chromosomal rearrangements; control of meiosis and cell type.

**Professor Jeffrey C. Hall:**  
Genetic and histochemical mosaic analysis of behavior mutants of *Drosophila melanogaster*.

**Professor Hugh Huxley:**  
(Rosenstiel Center): Structure and function of muscle.

**Professor Attila O. Klein:**  
Regulation of development in higher plants by light. Control of growth, organelle development and macromolecular synthesis in the leaf.

**Professor John E. Lisman:**  
Mechanisms of excitation and adaptation in photoreceptors.

**Professor Alfred Nisonoff**  
(Rosenstiel Center): Immunochimistry. Genetic control of the immune response.

**Professor Michael Rosbash:**  
Gene organization in eucaryotes. Macromolecular synthesis during oogenesis.

**Professor Jerome A. Schiff:**  
Plant biochemistry and physiology. Photocontrol of intracellular development. Sulphur metabolism.

Professor <b>Andrew G. Szent-Gyorgyi:</b> Mechanism of muscle contraction. Regulation of contractile proteins in Immunochemistry. both primitive and more advanced animals.	Associate Professor <b>Eve E. Marder:</b> Neurotransmitter modulation of neural circuits.	Associate Professor <b>Lawrence J. Wangh:</b> Steroid hormone regulated biosynthetic responses of <i>Xenopus</i> liver cells.	Adjunct Associate Professor <b>Judith E. Tsipis:</b> Virology.	Assistant Professor <b>Erik Selsing:</b> Immunology.
	Associate Professor <b>Joan L. Press</b> (Rosenstiel Center): Developmental immunology and immunogenetics.	Associate Professor <b>Kalpana P. White:</b> Developmental neurogenetics.	Assistant Professor <b>Kathleen M. Karrer:</b> Molecular analysis of germ line development, genome rearrangements in protozoa.	Assistant Professor <b>Ranjan Sen:</b> Immunology.

## Degree Requirements

At least one year of teaching experience (or equivalent) is required of all degree candidates.

### Master of Arts

The goal of the biology department is to train students in original research on the level of the Ph.D. Only rarely do we accept candidates for a master's degree.

### Program of Study.

The program leading to the M.A. degree in biology requires course work and a research thesis. The student's program will be set up by the Graduate Committee of the department. The candidate must complete the equivalent of one full year of graduate study at Brandeis University, normally computed at a minimum of eight half-courses of approved study which include research courses. The candidate must pass the prescribed courses and submit an acceptable thesis.

### Language Requirement.

There is no foreign language requirement for the master's degree.

### Doctor of Philosophy

#### Program of Study.

All students will be expected to obtain a knowledge of the principles and techniques of the five areas represented in the department, i.e., genetics, developmental biology, neurobiology, immunology and cell biology, before taking the qualifying examination. The background a student is expected to have in these areas will be covered in courses given by the department. Entering students will be encouraged to do research rotations in at least two different laboratories. The student will be expected also to have additional background in his or her area of specialization as well as experience in seminar and research courses to be designated.

Each student will choose his or her specific field of interest and will apply for a permanent advisor to be agreed upon by the department before the end of the second year. The advisor will assist the student in planning a well-balanced program in his or her specific field of interest. In addition, the advisor will ordinarily serve as the chairman of the student's dissertation examining committee.

#### Language Requirement.

There is no foreign language requirement for the Ph.D. degree.

#### Qualifying Examination.

Ordinarily this examination is taken in the middle of the second year of study. Subsequent to the written portion of the examination, a proposition committee is formed and the student must submit and defend two propositions from two areas. The student will be examined orally on the two propositions by the three members of the proposition committee.

#### Admission to Candidacy.

To be admitted to candidacy, the student must have (a) passed the qualifying examination, (b) been accepted by a graduate advisor.

#### Dissertation and Defense.

Each student will conduct an original investigation. With the approval of the student's advisor, however, research courses may be elected at any time. After submission of the dissertation, the candidate will be expected to present the principal results of his or her work and its significance during an examination in defense of the dissertation.

## Courses of Instruction

<b>Biology 100a. Photobiology of Cells and Organelles</b>	Basic photobiology including an introduction to the physical and chemical concepts involved, the influence of the changing solar spectrum on the course of evolution, the catalytic uses of light by living systems including photoperception (phototropism, phototaxis and the evolution of visual systems), photomorphogenesis (blue light and re-far red systems), photoinduced rhythms, and other biological responses to light, energy storage including the photosynthetic apparatus, membranes and reaction centers, photosynthetic electron transport and phosphorylation, photosynthetic carbon metabolism and photoreduction, utilization of assimilatory power in reductive reactions, the deleterious effects of light including photodynamic action, photoprotection, cryothermal effects, ultraviolet damage to the genetic material and its photorepair and the evolution of repair systems and medical applications.	<b>Biology 105b. Eukaryotic Molecular Biology</b>	The structure and control of eukaryotic genes and their products. Experimental support for current views of control will be emphasized. Research papers will be discussed.
	Usually offered every year.		Usually offered every year. Mr. Sen
<b>Biology 101a. The Electron Microscope</b>	One of the most powerful instruments in modern research is the electron microscope. With it, scientists can examine the outer surface of a whole beetle, the inner workings of cells and can even see single atoms. Find out how the machine works, how it is used and what it is used for.	<b>Biology 106b. Regulation of Cellular Growth and Differentiation</b>	This course will examine the biochemical mechanisms involved in the regulation of cellular proliferation and differentiation. We will discuss the role of extracellular growth factors, and the mechanisms of signal transduction in the control of the cell cycle. The genetic basis of differentiation, including the role of oncogenes in normal development and neoplasia, will be addressed.
	Usually offered in even years. Mr. DeRosier		Usually offered every year. Messrs. Newman and Wormington
<b>Biology 102b. Structural Molecular Biology</b>	A deeper discussion of the material in Biology 70b, focussing on such topics as molecular recognition in protein-nucleic acid and protein-protein interactions. Experimental methods, such as X-ray crystallography and electron microscopy, will be included. Suitable for first year graduate students and qualified undergraduates.	<b>Biology 107a. Behavioral Genetics</b>	Usually offered every fourth year. Mr. Hall
	Usually offered every year. Ms. Cohen	<b>Biology 122a. Advanced Genetics</b>	A deeper and more detailed discussion of topics introduced in Biology 21. Two basic approaches will be emphasized: cytogenetics and molecular genetics. Problems currently under investigation will be discussed.
<b>Biology 103b. Advanced Topics in Cell and Molecular Biology</b>	The course will examine a number of key questions concerning the molecular basis of a range of essential cellular mechanisms, and will analyze in detail the technical and theoretical advances which have made possible some of the crucial experiments on which our current knowledge is based.	<b>Biology 124b. Animal Virology</b>	Usually offered in odd years. Ms. Tsipis
	Usually offered in odd years. Mr. Huxley	<b>Biology 125a. Immunology</b>	A discussion of the biological aspects of the immune response. Topics to be covered include antibody structure and function; properties and characteristics of the cells involved in cell-mediated immunity, transplantation immunity, allergy and humoral immunity; tolerance of the cellular perception of self and non-self; generation of antibody diversity; regulatory mechanisms involved in cell interaction, including suppression and genetic control; and aspects of tumor immunity.
			Usually offered every year. Ms. Press

Biology 142a. <b>Neurobiology</b>	This course is designed as an introduction to the field of neurobiology. Original papers and a textbook will provide readings. Topics: membrane electrophysiology, synaptic transmission, sensory processing, generation of motor patterns and neuronal plasticity. For graduate students with little or no previous course work.	Biology 175b. <b>Advanced Immunology</b>	Recent advances in immunobiology. The format will include lectures to introduce the subject material and a detailed analysis with student participation of papers in the current literature. Topics which will be considered will include: recent advances in the molecular biology of antibodies and T cell receptors; the structure of the antibody combining site and its interactions with antigens; antigen processing and its role in T cell stimulation; factors influencing B cell differentiation, including lymphokines.
	Usually offered every year.		Usually offered in odd years.
	Mr. Levitan	Mr. Nisonoff	
Biology 143b. <b>Developmental Neurobiology</b>	Mechanisms used in the formation of the nervous system will be discussed. Topics to be covered include determination of the neuronal precursors, pattern formation in the nervous system, neuronal differentiation and mechanisms responsible for neural specificity. The course will consider the use of modern cellular neurobiological techniques, molecular biology and neurogenetics to address questions in neural development. Research papers will be discussed.	Biology 177b. <b>Molecular Immunology</b>	This course will cover studies of the immune system at the molecular levels with emphasis on work presently being done in the field. The format of the course will be student analysis and discussion of papers in the current literature.
	Usually offered every fourth year.		Usually offered in even years.
	Ms. White	Mr. Selsing	
Biology 145b. <b>Integrative Neurobiology</b>	This course will focus on topics of current research in integrative neuroscience. Readings will come from recently published papers, and classes will be discussions of assigned papers. Possible topics will involve the organization of sensory and motor systems, current theories concerning the mechanisms of synaptic plasticity and learning, the production of rhythmic behaviors, modulation of sensory and motor functions, the organization of the central nervous systems of invertebrates and vertebrates, aspects of computational neuroscience and neural modeling.	Biology 200a. <b>Proseminar.</b>	Usually offered every year.
	This course is meant for graduate students, but interested undergraduates who have taken Biology 45 will be admitted with consent of the instructor.	Mr. Wangh	
	Usually offered every year.		
	Ms. Marder	Mr. Gibbs	
Biology 161b. <b>Developmental Genetics</b>	The course will consider the use of classical genetics, cytogenetics and molecular genetics in the analysis of developmental problems. Developmental processes such as oogenesis, embryogenesis and gene amplification will be used as framework for discussion of such genetic techniques as gyandromorph mapping, somatic recombination, cytoplasmic and cellular transplantation, <i>in situ</i> hybridization, somatic cell recombination, etc. Readings will be assigned from the literature.	Biology 245b. <b>Comparative Physiology and Biochemistry of Plants</b>	A continuation of Biology 245a.
	Usually offered every fourth year.	Mr. Schiff	Usually offered every year.
	Mr. Hall		
<b>Courses in Research</b>			
Biology 300a and b. <b>Biological Research</b>	Primarily for the first year student with the purpose of introducing him or her to biological research and to the work in progress in the laboratories of a number of faculty members. In consultation with the graduate advisor, the student plans a sequence of such tenures, each comprising 12 weeks or more, and then carries out experimental investigations under the guidance of the faculty members involved.		
	Offered every year.		
		Staff	
Biology 400d. <b>Biophysics of Microorganisms</b>		Mr. Epstein	

Biology 401d. <b>Photobiology and Plant Physiology</b>	Mr. Schiff	Biology 416d. <b>Molecular Analysis of Germ Line Development</b>	Ms. Karrer
Biology 402d. <b>Photobiochemistry and Plant Metabolism</b>	Mr. Gibbs	Biology 417d. <b>Muscle Physiology</b>	Mr. Huxley
Biology 403d. <b>Immunochemistry: Genetic Control of the Immune Response</b>	Mr. Nisonoff	Biology 418d. <b>Developmental Immunology</b>	Ms. Press
Biology 404d. <b>Developmental Neurobiology</b>	Ms. White	Biology 419d. <b>Immunology</b>	Mr. Selsing
Biology 405d. <b>Cell Differentiation and Morphogenesis</b>	Mr. Fulton	Biology 420d. <b>Nutritional Patho-physiology</b>	Mr. Hayes
Biology 406d. <b>Neurophysiology</b>	Ms. Marder	Biology 421d. <b>Molecular Immunology</b>	Mr. Sen
Biology 407d. <b>Structural Biochemistry</b>	Ms. Cohen	Biology 422d. <b>Molecular Biology Genetics and Biochemistry of <i>Drosophila</i></b>	Learning and Memory. Mr. Tully
Biology 408d. <b>Behavioral Genetics</b>	Mr. Hall	Biology Journal Clubs	There will be a number of informal Journal Clubs which deal with various topics of concern to the various specialties. These will meet regularly under the auspices of the staff. Students, depending upon their individual needs, may be required to attend.
Biology 409d. <b>Biophysics of Visual Transduction</b>	Mr. Lisman		
Biology 410d. <b>Plant Development</b>	Mr. Klein		
Biology 411d. <b>Gene Control in Vitellogenin</b>	Mr. Wangh		
Biology 412d. <b>Structural Molecular Biology</b>	Mr. DeRosier		
Biology 413d. <b>General Physiology</b>	Mr. Szent-Gyorgyi		
Biology 414d. <b>Gene Organization Eukaryotes, Macromolecular Synthesis During Oogenesis</b>	Mr. Rosbash		
Biology 415d. <b>Biochemistry and Genetics of Differentiation</b>	Mr. Haber		

# Biophysics

## Objectives

The interdepartmental graduate program in biophysics, leading to the degree of Doctor of Philosophy, is designed to provide a broad background in the physics and chemistry of living processes and to develop the students' capacity for independent research. The program offers opportunity for study and research in biophysical chemistry, cellular physiology, molecular genetics, photobiology, psychophysics and structural biology. Applicants are expected to have strong backgrounds in physical science with undergraduate concentrations in biology, chemistry, mathematics, physics or engineering.

## Admission

The general requirements for admission to the Graduate School are given in an earlier section of this catalog. Applications should include, in addition to letters of reference, a personal statement giving reasons for choosing biophysics and indicating areas of interest. Applicants are required to take the Graduate Record Examination and are encouraged to visit Brandeis for interviews, if possible.

## Faculty Advisory Committee

**Professor**  
**John E. Lisman**  
 (Biology), Chair

**Professor**  
**Carolyn Cohen**  
 (Biology)

**Professor**  
**Christopher Miller**  
 (Biochemistry)

**Professor**  
**Donald Caspar**  
 (Physics)

**Professor**  
**Alfred C. Redfield**  
 (Physics and  
 Biochemistry)

**Associate Professor**  
**Judith Herzfeld**  
 (Chemistry)

The faculty of the Biophysics Program is composed of members of the biochemistry, biology, chemistry and physics departments. About 20 faculty members participate in this graduate program.

## Degree Requirements

### Doctor of Philosophy

#### Program of Study.

Since biophysics is a very broad field and students may have widely different backgrounds and goals, the course of study is flexible. During the first year students take Biophysics 300, a course in which students meet with selected faculty members to explore areas of research. Students are also required to successfully complete Biophysics 200b.

In addition, students generally complete the following courses: Advanced Biochemistry (Biochemistry 101a), Introduction to Physical Biochemistry (Biophysics 104b), Structural Biology (Biophysics 102b) and Biophysical Optics (Biophysics 101a). Courses to complete the student's program will depend on the student's background and interests. The additional courses may be in the areas of biochemistry, biology, biophysics, chemistry, mathematics, photobiology or physics.

#### Language Requirement.

Reading knowledge of one foreign language, chosen from French, German or Russian. A knowledge of computer programming may be substituted.

#### Admission to Candidacy.

Students are admitted to candidacy on the basis of academic performance and on research proposals that they develop and defend, generally during the second year of study. Students must pass Biophysics 200b in order to qualify for admission to candidacy.

#### Dissertation and Defense.

Each doctoral candidate will submit a dissertation describing his or her research and will be required to defend it in a Final Oral Examination.

## Courses of Instruction

<b>Biophysics 200b. Seminar in Biophysical Research</b>	A required seminar for biophysics majors which will deal with current biophysical research. Emphasis is on the understanding, critical evaluation and use of scientific literature. Students will discuss topics from the areas of biophysical chemistry, cellular physiology, molecular genetics, photobiology and structural biology, based on the reading of significant articles. In consultation with the faculty, each student will develop a research proposition based on independent reading and will prepare a research plan in the form of a thesis proposal.	<b>Biology 101a. The Electron Microscope</b>	Usually offered in even years. Mr. DeRosier
	Open to graduate students in other sciences with permission of the instructor.	<b>Biology 102b. Structural Molecular Biology</b>	Usually offered every year. Ms. Cohen
	Offered every year.	<b>Biology 103b. Advanced Topics in Cell and Molecular Biology</b>	Usually offered in odd years. Mr. Huxley
	Mr. Caspar	<b>Biology 105b. Eukaryotic Molecular Biology</b>	Usually offered every year. Mr. Sen
<b>Biophysics 300. Introduction to Research in Biophysics</b>	Students carry out a project in the research laboratory of one of the faculty members. Projects and faculty are selected from the departments of biochemistry, biology, chemistry and physics and the Institute of Photobiology. At least three terms of Biophysics 300 are required.	<b>Biology 145b. Integrative Neurobiology</b>	Usually offered every year. Ms. Marder
	Offered every year.	<b>Chemistry 229b. Introduction to X-ray Structure Diffraction</b>	Usually offered in odd years. Mr. Foxman
	Staff	<b>Physics 152b. Biological Assembly</b>	Usually offered every third year. Mr. Caspar
<p>Students register for Dissertation Research in the 400 series with a faculty member in the department in which they are doing their research.</p> <p>Following is a partial list of advanced courses which may be of interest to students in the Biophysics Program.</p>			
<b>Biochemistry 104b. Introduction to Physical Biochemistry</b>	Usually offered every year. Mr. Timasheff		
<b>Biochemistry 142a. Neurochemistry and Cellular Neurobiology</b>	Usually offered every year. Mr. Levitan		
<b>Biology 100a. Photobiology of Cells and Organelles</b>	Usually offered every year. Messrs. Gibbs, Schiff and Staff		

# Chemistry

## Objectives

The graduate program in chemistry, comprising course work, seminar participation, and research, is designed to lead to a broad understanding of the subject. The graduate program leads to the M.A. and Ph.D. degrees in chemistry. The Ph.D. is offered with specializations in inorganic, organic, physical and physical-organic chemistry and in chemical physics. (Detailed information on the interdisciplinary specialization in chemical physics is found on page 40). All students will be required to demonstrate knowledge in advanced areas of inorganic, organic and physical chemistry. The doctoral program is designed to be flexible so that individual programs of study may be devised to satisfy the particular interests and needs of each student. In each case this program will be decided by joint consultation between the student and the Departmental Committee of Graduate Studies and the thesis supervisor, when selected. The doctoral program will normally include a basic set of courses in the student's own area of interest, to be supplemented by advanced courses in chemistry and, where appropriate, in biochemistry, biology, mathematics and physics.

## Faculty

**Professor Peter C. Jordan,**  
Chair Statistical mechanics of membrane transport; electrostatic modeling of ion pores; molecular dynamics.

**Professor Iu-Yam Chan:**  
Optically detected magnetic resonance; laser spectroscopy.

**Professor Irving R. Epstein:**  
Experimental and theoretical studies of oscillating chemical reactions and dynamic instabilities; mathematical modeling of biochemical kinetics.

**Professor Bruce M. Foxman,**  
Cochair, Graduate Studies Committee; X-ray structure determination; coordination polymers; chemical, physical and crystallographic studies of solid-state reactions.

**Professor Ernest Grunwald:**  
Solvation in polar liquid solutions; molecular structure of ion pairs; structure-energy relationships; concerted reaction mechanism.

**Professor Michael J. Henehan:**  
The chemistry of ions in the gas phase; the effect of solvation on reactivity and mechanism.

**Professor James B. Hendrickson:**  
Synthesis of natural products; computerization of synthesis design and development of new synthetic reactions.

**Professor Philip M. Keehn,**  
Cochair, Graduate Studies Committee; Synthetic methods, organic synthesis of strained rings and theoretically interesting molecules; applications of NMR spectroscopy to organic systems; photooxidative pure and applied laser chemistry of organic systems; host-guest complexes.

**Professor Kenneth Kustin:**  
Inorganic biochemistry; vanadium and iron in tunicate blood cells and human tissues; fast reactions; oscillating reactions.

## Admission

The general requirements for admission to the Graduate School, given in an earlier section of this catalog, apply to candidates for admission to this area of study. In addition, the undergraduate curriculum of applicants should include courses in physics and mathematics (differential and integral calculus), and courses in general and inorganic, analytical, organic and physical chemistry.

Admission to advanced courses will be based upon results of a qualifying examination in each of these areas of chemistry, which will be taken upon entrance. These examinations will determine if the student shall be required to make up deficiencies in preparation. The results of the qualifying examinations will be considered in the assignment of awards for the subsequent years of graduate study and in determining a student's eligibility to continue in a degree program.

**Professor Henry Linschitz:**  
Reactions of excited molecules; electron-transfer processes; photo-ionization in solution; metal complexes; physical mechanisms of photo biological processes.

**Professor Myron Rosenblum:**  
Chemistry of organometallic complexes of the transition elements. New methods in organic synthesis employing organometallic complexes. Electroactive organometallic polymers.

**Professor Barry S. Snider:**  
Synthetic methods; mechanism of synthetically important reactions; total synthesis of natural products.

**Professor Colin Steel:**  
Chemistry of excited molecules and radicals; the kinetics and mechanisms of photochemical and thermal reactions; photophysics and photochemistry of infrared laser-induced reactions.

**Professor Robert Stevenson:**  
Isolation and structure of natural products; compounds of medicinal interest (steroids, terpenoids, lignans, heterocyclics).

**Professor Thomas R. Tuttle:**  
Chemistry of liquid solutions; the composition and structures of species in metal solutions in polar solvents; application of spectroscopy, e.g., magnetic resonance, optical and spectropolarimetry to elucidation of the composition and structure of solutions; theory of chemical species in solution.

**Associate Professor Judith Herzfeld:**  
Non-ideality and liquid-crystalline behavior of surfactant micelles and polymerizing proteins; solid state NMR studies of structure and dynamics in biological membranes.

**Assistant Professor Alan M. Stolzenberg:**  
Bioinorganic chemistry; synthesis, structure, and reactivity of inorganic and organometallic complexes; homogeneous catalysis; electrochemistry and electron transfer.

## Degree Requirements

Detailed information on the interdisciplinary specialization in chemical physics is found on pages 40-41.

Entering students may be admitted to either the master's or the doctoral program.

All candidates for advanced degrees are required to meet the following requirements:

### Qualifying Examination.

Each student is expected to demonstrate a satisfactory knowledge of undergraduate chemistry by the performance in four qualifying examinations; one each in physical chemistry, organic, inorganic and analytical chemistry. These examinations are set twice a year, before the start of each semester. Results of these examinations will be used as an aid in constructing the student's initial program of course work and will be considered by the Graduate Studies Committee in evaluating the student's progress.

### Language Requirement.

Each student is obliged to demonstrate a useful reading knowledge of scientific French, German or Russian within the first two years of residence.

### Seminar.

Each student in residence is required to attend and participate in the seminar in his or her chosen area of concentration throughout the period of graduate study.

### Teaching.

It is expected that all graduate students will do some undergraduate teaching during the course of their studies.

### Placement and Evaluation of Progress.

Recommendations with respect to the first-year course of study will be based on the performance on the initial qualifying examinations. Admission to the graduate degree programs will be based on the student's record in course work during the first year and the performance on the qualifying examinations. Further progress will be evaluated on a yearly basis by the Graduate Studies Committee.

## Master of Arts

### Program of Study.

Each candidate is required to complete successfully one year of study at the graduate level in chemistry, or, with prior permission of the Graduate Studies Committee, in related fields. The program will include laboratory work and, normally, six semester courses at the graduate level. The detailed program of study will be one jointly arrived at by the candidate and the Graduate Studies Committee to reflect the candidate's area of interest as well as perspective of other areas.

### Residence Requirement.

The minimum residence requirement for the M.A. degree is one year.

## Doctor of Philosophy

### Program of Study

A balanced program of study will be prepared by the students and the Graduate Studies Committee. In general, students will be required to take a minimum of seven graduate level courses, of which two must lie outside the student's field of research. If a student fails to pass a qualifying examination after two attempts, a graduate course has to be taken in that area of chemistry before the end of the second year. For this purpose a list of appropriate courses is available upon request.

For students entering with previous graduate experience, a maximum of five courses may be transferred for credit. It is expected that doctoral students will choose a research advisor during the first year, normally in the second semester.

A student is recommended for admission to candidacy for the doctoral degree upon certification by his or her thesis advisor and the Graduate Studies Committee that the student has satisfied the qualifying and language examination requirements and has made satisfactory progress in the program of study, research and the final Ph.D. examinations.

### Final Examinations.

The graduate student must demonstrate proficiency by taking final examinations in his or her major field: organic, physical-organic, physical or inorganic chemistry. In the organic chemistry program, a cumulative examination procedure is used. Each year, six one-hour examinations (on unannounced topics), and one three-hour examination (on an announced reading) are given. Each one hour examination passed is worth one unit and each reading examination is worth up to three units depending upon the pass level. The final examination requirement is satisfied by the student having accumulated nine units of which no more than six are from reading examinations. In physical-organic chemistry, final examinations are administered twice a year and are based on assigned readings. Students must pass three of these examinations. In physical chemistry and inorganic chemistry, generally during the third semester of graduate work, the student is assigned a set of propositions. In physical chemistry the set consists of three propositions; the student takes a written examination on one proposition and is examined orally on all three. In inorganic chemistry the student is assigned two propositions. He or she takes a written examination on one proposition and is examined orally on a research proposal (supplied either by the student or faculty) and the remaining proposition. Students in all fields must maintain satisfactory progress in passing these examinations.

### Residence Requirement.

The minimum residence requirement for the Ph.D. degree is two years.

### Dissertation and Defense.

A dissertation is required which describes the results of an original investigation and which demonstrates the competence of the candidate in independent investigation, critical ability and effectiveness of expression. The student must successfully defend the dissertation at a final oral examination.

## Courses of Instruction

<b>Chemistry 113b. Advanced Laboratory Techniques: Modern Organic Methods</b>	Usually offered every third year.  Staff	<b>Chemistry 137b. The Chemistry of Organic Natural Products</b>	Natural products chemistry will be surveyed within a biogenetic framework. Occurrence, isolation, structure elucidation, biogenesis and synthesis will be covered with an emphasis on modern methods of establishing biogenesis and biogenetic type synthesis.
<b>Chemistry 121a. Inorganic Chemistry I Lectures</b>	Introduction to the electronic and molecular structures and kinetics and reaction mechanisms of transition-metal complexes. Three lecture hours a week.  Prerequisite: Satisfactory grade in an undergraduate course in physical chemistry. Three lecture hours a week.  Usually offered every year.  Mr. Foxman		Usually offered every year.  Staff
<b>Chemistry 129b. Inorganic Chemistry Laboratory</b>	Usually offered every year.  Staff	<b>Chemistry 141a. Advanced Physical Chemistry I</b>	Classical and statistical thermodynamics: laws, tools and applications. System heterogeneity (membrane equilibria, phase separation). Chemical changes (redox systems, coupled reactions, macromolecular assembly). Molecular modelling (gas phase reactions, non-ideality, elasticity).
			Prerequisite: Satisfactory grade in an undergraduate course in physical chemistry.  Usually offered every year.  Ms. Herzfeld
<b>Chemistry 130a. Advanced Organic Chemistry: Structure</b>	Introduction to group theory and its application to molecular orbital theory and spectroscopy.  Usually offered every year.  Mr. Rosenblum	<b>Chemistry 141b. Advanced Physical Chemistry I</b>	Irreversible thermodynamics and chemical kinetics. Entropy production, reciprocal relations, microscopic reversibility and regression of fluctuations. Active transport, relaxation kinetics and oscillating reactions. Solution kinetics including enzyme reactions. Gas kinetics and theories of elementary processes. Microscopic kinetics: energy transfer and collision dynamics.
<b>Chemistry 131a. Advanced Organic Chemistry: Topics in Structure and Reactivity</b>	Usually offered every year.  Staff		Prerequisite: Satisfactory grade in Chemistry 141a or permission of instructor.  Usually offered every year.  Mr. Kustin
<b>Chemistry 132b. Advanced Organic Chemistry: Spectroscopy</b>	Application of spectroscopic methods to the elucidation of structure and stereochemistry of organic compounds with emphasis on modern NMR techniques.  Usually offered every year.  Mr. Snider	<b>Chemistry 142b. Advanced Physical Chemistry II</b>	Quantum mechanics: waves and operatory methods. Schrodinger's equation, simple model systems, angular momenta, perturbation theory and variational principle.
<b>Chemistry 133a. Advanced Organic Chemistry: Mechanisms</b>	Principles of the determination of reaction mechanisms. Substituent effects. Mechanisms of nucleophilic and electrophilic substitution reactions. Carbocation chemistry. Mechanisms of addition and elimination. Acidity and basicity.  Usually offered in even years.  Staff		Prerequisite: Satisfactory grade in an undergraduate course in physical chemistry.  Usually offered every year.  Mr. Chan
<b>Chemistry 134b. Advanced Organic Chemistry: Synthesis</b>	Modern synthetic methods will be covered with an emphasis on mechanism and stereochemical control. Formation of carbon-carbon single and double bonds and carbocycles and procedures for oxidation, reduction and functional group interchange will be discussed. Selected total syntheses will be examined.  Usually offered every year.  Mr. Snider	<b>Chemistry 143a. Advanced Physical Chemistry II</b>	A continuation of 142b. Quantum chemistry; spin, atomic and molecular structure, spectroscopy, chemical binding, advanced topics.
			Usually offered in even years.  Mr. Tuttle
		<b>Chemistry 144a. Structure and Spectroscopy</b>	Usually offered every third year.  Staff

<b>Chemistry 145b. Special Topics in Chemistry</b>	Usually offered every third year. Staff	<b>Chemistry 241c. Physical Chemistry Seminar</b>	Required of graduate students in physical chemistry, who must audit this course each year.  Offered every year. Staff
<b>Chemistry 147b. Applications of Group Theoretical Methods to Problems in Chemistry</b>	Usually offered in even years. Staff	<b>Chemistry 243b. Statistical Thermodynamics</b>	Elementary statistical mechanics of ensembles of molecules and applications to thermodynamic systems.  Usually offered every third year. Mr. Grunwald
<b>Chemistry 150c. Special Topics in Chemistry</b>	Usually offered every third year. Staff	<b>Chemistry 245a. Thermodynamics of Ionic Solvation</b>	Experimental methods for determining the thermodynamic quantities pertaining to ionic solvation: solubilities, electrochemical cell potentials, colligative properties. The structures of dilute ionic solutions: Debye-Hückel theories, theories of ionic association, ion-size, single ion solvation energies. Measurements of ionic activity coefficients and of ionic association equilibrium constants. Relationship of the spectroscopic properties of solvated ions to their thermodynamic properties. Determination of single ion quantities. Relationship of the properties of ion-solvent clusters to solvation.  Usually offered in odd years. Mr. Tuttle
<b>Chemistry 200d. Advanced Chemistry Laboratory</b>	Usually offered every year. Staff	<b>Chemistry 250c. Chemical Physics Seminar</b>	Required of graduate students in chemical physics, who must audit this course each year.  Offered every year. Staff
<b>Chemistry 220c. Inorganic Chemistry Seminar</b>	Required of graduate students in inorganic chemistry, who must audit this course each year.  Offered every year. Staff	<b>Chemistry Colloquium</b>	Lectures by faculty and invited speakers. Required of all graduate students. Non-credit.
<b>Chemistry 229b. Special Topics in Inorganic Chemistry: Introduction to X-ray Structure Determination</b>	Basic diffraction and space group theory; practical manipulations of crystals and x-ray diffraction equipment; solving crystal structures; interpretation of structural chemistry. Course will feature self-paced tutorials on the VAX 8600.  Usually offered every third year. Mr. Foxman	<b>Courses in Research</b>	
<b>Chemistry 231c. Organic Chemistry Seminar</b>	Required of graduate students in organic chemistry, who must audit this course each year.  Offered every year. Staff	<b>Chemistry 404d. Organic Chemistry</b>	Chemistry of natural products: steroids, triterpenoids, bisarylpropanoids, benzofurans.  Mr. Stevenson
<b>Chemistry 235b. Special Topics in Organic Chemistry</b>	The synthesis of complex targets will be covered with an emphasis on synthesis design and control of absolute and relative stereochemistry. The biosynthesis of major natural products families will also be covered.  Usually offered every third year. Mr. Hendrickson	<b>Chemistry 403d. Organic Chemistry</b>	Chemistry of organometallic complexes of the transition elements. New methods in organic synthesis employing organometallic complexes. Electroactive organometallic polymers.  Mr. Rosenblum
<b>Chemistry 240c. Physical-Organic Chemistry Seminar</b>	Required of graduate students in physical-organic chemistry, who must audit this course each year.  Offered every year. Staff	<b>Chemistry 404d. Organic Chemistry</b>	Synthesis of natural products; development of new synthetic reactions; computerization of synthesis design systematics.  Mr. Hendrickson

Chemistry 406d. <b>Physical Chemistry</b>	Reactions of excited molecules; luminescence; electron-transfer processes; metal complexes; physical mechanisms of photobiological processes.	Mr. Linschitz	Chemistry 416d. <b>Physical Chemistry</b>	Optically detected ENDOR investigation of organic triplet state molecules. Interaction between an electronically excited molecule and lattice phonon. Supersonic jet spectroscopy on large molecules. Magnetic resonance under high pressure.	Mr. Chan
Chemistry 408d. <b>Physical Chemistry</b>	Experimental and theoretical study of chemical species in solution. Spectroscopic investigations of metal solutions in polar solvents.	Mr. Tuttle	Chemistry 417d. <b>Organic Chemistry</b>	Organic synthesis of strained rings and theoretically interesting molecules; synthetic methods; application of nuclear magnetic resonance spectroscopy to organic systems; photooxidation; thermal chemistry; pure and applied laser chemistry of organic systems; enclathration and host-guest complexation in tri-o-thymotide.	Mr. Keehn
Chemistry 409d. <b>Inorganic Chemistry</b>	Inorganic biochemistry; vanadium and iron in tunicate blood cells and human tissues; fast reactions; oscillating reactions.	Mr. Kustin	Chemistry 419d. <b>Inorganic Chemistry</b>	X-ray structure determination; coordination polymers; reactions in crystals; kinetics, mechanisms, and crystallography of rearrangement, polymerization and decomposition reactions in the solid-state.	Mr. Foxman
Chemistry 410d. <b>Biophysical Chemistry</b>	Statistical mechanical and experimental studies of non-ideality in self-assembling systems, with emphasis on the liquid crystalline behavior of polymerizing proteins and surfactant micelles. Spectroscopic studies of structure and dynamics in biological membranes, with emphasis on solid-state NMR experiment and theory applied to the elucidation of light driven proton transport.	Ms. Herzfeld	Chemistry 421d. <b>Organic Chemistry</b>	Synthetic methodology and natural product synthesis. Carbon-carbon bond forming reactions of alkenes and their application to natural product synthesis; intramolecular reactions; ene and Prins reactions; synthesis of biologically active natural products.	Mr. Snider
Chemistry 411d. <b>Physical Chemistry</b>	Chemistry of excited molecules and radicals; the kinetics and mechanisms of photochemical and thermal reactions. Photophysics and photochemistry of infrared laser-induced reactions.	Mr. Steel	Chemistry 422d. <b>Inorganic Chemistry</b>	Bioinorganic chemistry. Coordination chemistry of porphyrins, hydroporphyrins, and related macrocycles. Organometallic chemistry. Chemistry of metallacycles.	Mr. Stolzenberg
Chemistry 412d. <b>Physical and Physical Organic Chemistry</b>	Molecular electronic spectra and conformational studies at high temperatures; solvation in polar liquid solutions; molecular structure of ion pairs.	Mr. Grunwald	<b>Chemical Physics</b>		
Chemistry 413d. <b>Physical Chemistry</b>	Membrane transport; electrostatic modeling of ion pores; molecular dynamics of ionic motion in biological molecules.	Mr. Jordan	<b>Ph.D. in Chemistry with Specialization in Chemical Physics</b>		
Chemistry 414d. <b>Physical Chemistry</b>	Kinetic studies of the reactions and properties of ions and solvated ions in the gas phase.	Mr. Henchman	The graduate program in chemical physics is an interdisciplinary specialization designed to meet the needs of students who wish to prepare themselves for the study of scientific problems using the methods and theories of modern physics and physical chemistry. This objective is attained by (1) formal course work in chemistry, physics and, possibly, mathematics; (2) participation in relevant graduate seminars; (3) a program of supervised research involving chemical physics; (4) independent study.		
Chemistry 415d. <b>Physical Chemistry</b>	Experimental and theoretical studies of oscillating chemical reactions and dynamic instabilities; mathematical modeling of biochemical kinetics.	Mr. Epstein	The program is designed to be flexible in providing individual programs of study to satisfy the particular interests and needs of each student. Final programs of study and research will be jointly arrived at by the student, his or her research supervisor and the Chemical Physics Committee. Only candidates for the Ph.D. will be accepted.		

<b>Admission</b>	<p>The general requirements for admission to the Graduate School apply to candidates for admission to the graduate program in chemical physics. Applicants should have a strong undergraduate background in chemistry, physics and mathematics.</p>	<b>Doctor of Philosophy</b> Program of Study.
<b>Degree Requirements</b>	<p>No master's degree is offered with specialization in chemical physics, but students who satisfy the appropriate requirements will be eligible for the M.A. degree in chemistry.</p>	<p>It is expected that some candidates for the Ph.D. degree in chemistry with specialization in chemical physics may require a longer period of time in course work than will students in either of the fields of physics or chemistry. In general, the program for the Ph.D. in chemistry with specialization in chemical physics will include eight semester graduate courses: four in physical chemistry, one in either organic or inorganic chemistry and three in physics. No specific course work in mathematics is required, but students are expected to be familiar with the techniques necessary for the proper pursuit of their research. In addition, each student is expected to demonstrate a knowledge of elementary computer programming.</p>
<b>Qualifying Examinations.</b>	<p>Each student is expected to demonstrate a satisfactory knowledge of undergraduate chemistry, physics and mathematics by the performance in three qualifying examinations: organic or inorganic/analytical chemistry and one each in physical chemistry and in physics/mathematics. These examinations are set twice a year, in September and January. Results of these examinations will be used as an aid in constructing the student's initial program of course work and will be considered by the Chemical Physics Committee in evaluating the student's progress.</p>	<p>Students may satisfy their program's course requirements in part or in entirety by passing (or giving evidence of ability to pass) the final examination in the appropriate number of such courses. Courses in areas related to chemistry and physics may also be considered by the Chemical Physics Committee in partial fulfillment of the requirements.</p>
<b>Language Requirement.</b>	<p>Each student is required to demonstrate a useful reading knowledge of scientific French, German or Russian within the first two years of residence.</p>	<p>Students are recommended for admission to candidacy for the doctoral degree upon certification by their thesis adviser and the Chemical Physics Committee that they have satisfied the qualifying and language examination requirements and have made satisfactory progress in the program of study, research and the final Ph.D. examination.</p>
<b>Seminar.</b>	<p>Each student in residence is required to attend and to participate in the Chemical Physics Seminar. Participation in other seminars in physics and chemistry is also recommended.</p>	<p>Final examinations in chemical physics are generally taken during the third semester of graduate work. The student is assigned a set of three propositions; the student takes a written examination on one proposition and is examined orally on the remaining two.</p>
<b>Teaching.</b>	<p>It is expected that all graduate students will do some undergraduate teaching during the course of their studies.</p>	<p>The minimum residence requirement for the Ph.D. degree is two years.</p>
		<p>A dissertation is required which describes the results of an original investigation and which demonstrates the competence of the candidate in independent investigation, critical ability and effectiveness of expression. An oral defense of the dissertation will be held.</p>

## Cognitive Science

See Psychology

## Comparative History

### Objectives

The graduate program in comparative European history leads to the degree of Doctor of Philosophy. It trains students to approach the past from a comparative perspective. This method represents the most fruitful way to interpret the past, and the program fosters it in two ways. First, students will develop expertise in two broad fields of history — either medieval and early modern or early modern and modern. Second, they will study their fields from a thematic approach which transcends national boundaries and moves away from conventional periodization.

The comparative history program gives students a broad understanding of the development of Europe and fosters the ability to make cross-cultural comparisons. The thematic approach is central to the process. The Brandeis history faculty is exceptionally diverse in its interests and offers the student a variety of approaches to the past: the study of political structure, economics, the family, social organization, psychohistory, culture and thought. Each student will read widely on two of these subjects and in the process learn what developments were unique and which ones were comparable over time and space. Finally, students will take a non-European field drawn from the Americas, the Near East or the Far East.

The program is designed to prepare students for the competitive academic environment of the next decade. It trains them in methods of historical research and equips them to teach a broad range of subjects. On a deeper level, comparative history fosters intellectual flexibility and interdisciplinary skills which can be creatively employed both inside and outside academia.

A small, select student body will work in close cooperation with the faculty. Most instruction will take place in seminars specifically designed for graduate students or in individual conferences with faculty advisors. From the beginning, the curriculum will help students prepare for their qualifying examinations and guide them toward eventual dissertation research.

During the first year, students must prepare a major research paper on a topic chosen in consultation with a principal advisor. The paper may be comparative in research (involving two or more symmetrical case studies), or it may focus upon a single case (with that research informed by a reading of secondary literature on similar cases). The paper constitutes the major intellectual enterprise of the first year, and students devote one-quarter of their time to it in the first year. The student will also enroll in two introductory graduate colloquia, which cover the early modern and modern periods. During both of their first two years of residence, students must also enroll in the comparative history seminar, which treats significant problems in comparative perspective and introduces students to the methods and issues in comparative history. Students must also enroll in the historiography colloquium (offered alternate years). Finally, before they may take the qualifying examination all students must complete a tutorial or other work focusing on a part of the world geographically or chronologically removed from their principal area of specialization with a view to gaining a comparative perspective on their major research interest.

Students are expected to have a general mastery of two broad fields of history, either medieval and early modern or early modern and modern history. Specifically, they must demonstrate a mastery of two thematic fields within their general fields. These thematic fields will normally be chosen from such approaches as cultural, diplomatic, economic, family, intellectual, political and social history. With the approval of the faculty, a student may substitute a methodological field, such as psychohistory, anthropological history or quantitative history for half of one conventional theme. Students may also petition to substitute the medieval period for a portion of the early modern period.

Students should normally plan to complete all work for the doctorate, including the dissertation, within four to five years after entering the program; prolongation of study past the sixth year is discouraged.

**Admission**

The general requirements for admission to the Graduate School, given in an earlier section of the catalog, apply to candidates for admission to this program. Students with a sound preparation in history and who have demonstrated unusual imagination and critical insight will receive special consideration. Undergraduate majors in the other social sciences or in allied fields such as comparative literature may, however, apply. Applicants

should submit a sample of written work, preferably in European history. Only doctoral candidates will be accepted into the regular program. Unusually well-qualified students with distinguished records who wish to obtain a master's degree in modern history before going on to further training in such fields as law, business, diplomacy, social work, journalism or medicine, or who have already earned degrees in these fields, may also be admitted.

**Faculty**

Associate Professor  
**William E. Kapelle**,  
Chair: Medieval history.

Professor  
**Rudolph Binion**:  
Modern history.  
Culture and thought.  
Psychohistory.

Professor  
**Eugene C. Black**:  
Modern history.  
Political and social institutions.

Professor  
**David H. Fischer**:  
Modern history. Social institutions.

Professor  
**Gregory Freeze**:  
Russia and Germany.  
Social history.

Professor  
**Morton Keller**:  
Legal and political institutions.

Professor  
**Stephen A. Schuker**:  
Modern diplomatic, economic, political and business history.

Professor  
**Bernard Wasserstein**:  
Modern European, Jewish and Near Eastern history.

Associate Professor  
**Samuel K. Cohn, Jr.**  
Renaissance and early modern history.

Associate Professor  
**Lorraine Daston**:  
History of science.

Associate Professor  
**Christine Heyrman**:  
Community, religion and economic Colonial America.

Associate Professor  
**James Kloppenburg**:  
Intellectual and cultural history.

Assistant Professor  
**Alice Kelikian**:  
Modern history. Social institutional history.

Assistant Professor  
**Robert Schneider**:  
Early modern history.

**Degree Requirements****Master of Arts**

An M.A. degree in history will be awarded to those students who have satisfactorily completed one year of residence as a full time student, completed all their courses and the research paper, fulfilled the first year language requirement and passed a special examination at the master's level. Students who have completed the Ph.D. qualifying examinations and the stated requirements for the master's degree automatically qualify for conferral of the master's degree.

**Language Requirement.**

During the sixth semester, students will make an oral presentation setting their proposed dissertation topic in comparative perspective; this is called the "category examination." The student will, when feasible, spend the third or fourth year in the program abroad pursuing research for the dissertation. Arrangements can be made for conferences with foreign scholars who can advise on the subject of research.

**Doctor of Philosophy****Program of Study.**

During the first year in the program, students will complete a major research paper and the two colloquia in European history. Within the first two years, they must also take a historiography course and two seminars in comparative history, besides fulfilling the geographical outside-field requirement.

Normally the student will take the qualifying examination during the fifth semester. Any student who has failed to complete the qualifying examination by the sixth semester will be dropped from the program.

The student will normally define a dissertation topic in the term preceding the qualifying examination but in no case later than the end of the sixth semester in the program.

**Admission to Candidacy.**

The use of foreign languages is an essential tool for the comparative historian. Each student will be expected to pass, upon admission, one language examination testing the ability to read historical prose with a dictionary. The second language examination must be passed before the student registers for the third semester. All students must show competence in French and German. Medieval students must also offer Latin. Students may in some instances petition to substitute a language appropriate to their research interests for either French or German.

**Dissertation Defense.**

A student may be admitted to candidacy for the Ph.D. degree when he or she has completed course and residence requirements, demonstrated proficiency in the required foreign languages, passed the qualifying examination and gained approval of his or her dissertation topic by the faculty of the program.

When the student's dissertation committee accepts the completed dissertation, the candidate must defend it at a final oral examination.

**Category.**

## Courses of Instruction

<b>Seminars</b>		<b>Comparative History 321 — 339a and b. Readings</b>	321a and b. Mr. Binion	330a and b. Mr. Schuker
History 190a. <b>Methods of History</b>	A critical analysis of classical historiography. Usually offered every year. Mr. Fischer		322a and b. Mr. Black	332a and b. Mr. Wasserstein
History 200a. <b>Colloquium in Early Modern European History</b>	An introduction to the major issues and methods in the social history of Europe during the early modern and modern periods. Usually offered every year. Mr. Cohn		323a and b. Ms. Daston	333a and b. Mr. Cohn
Comparative History 200b. <b>Colloquium in European Comparative History Since the Eighteenth Century</b>	Comparative examination of major historical issues in Europe from the eighteenth through the twentieth centuries. Usually offered in even years. Mr. Schuker		324a and b. Mr. Fischer	334a and b. Mr. Kapelle
Comparative History 202b. <b>Seminar in Comparative History: Historical Look at Marginality</b>	Usually offered in odd years. Mr. Binion		325a and b. Mr. Freeze	335a and b. Ms. Kelikian
Comparative History 203b. <b>Seminar in Comparative History: Death in History</b>	Usually offered every third year. Mr. Cohn		326a and b. Mr. Keller	338a and b. Mr. Kloppenburg
Comparative History 301 — 319a and b. <b>Research Papers</b>	301a and b. Mr. Binion	310a and b. Mr. Schuker	327a and b. Mr. Schrecker	339a and b. Mr. Schneider
			328a and b. Ms. Heyrman	
			Offered every year.	
		<b>Comparative History 401-419. Dissertation Research</b>	401d. Mr. Binion 402d. Mr. Black 403d. Ms. Daston 404d. Mr. Fischer 405d. Mr. Freeze 406d. Mr. Keller 408d. Ms. Heyrman	410d. Mr. Schuker 412d. Mr. Wasserstein 413d. Mr. Cohn 414d. Mr. Kapelle 415d. Ms. Kelikian 418d. Mr. Kloppenburg 419d. Mr. Schneider
			Offered every year.	
		<b>Registration in Time</b>	In addition the following courses may be taken as equivalent to Comparative History seminars.	
		<b>History 110a. The Civilization of the Early Middle Ages</b>	Usually offered every year. Mr. Kapelle	
		<b>History 110b. The Civilization of the High and Late Middle Ages</b>	Usually offered every third year. Mr. Kapelle	
		<b>History 112b. The Crusades and the Expansion of Medieval Europe</b>	Usually offered in odd years. Mr. Kapelle	
		<b>History 113a. English Medieval History</b>	Usually offered every third year. Mr. Kapelle	
		<b>History 123a. The Renaissance</b>	Usually offered every fourth year. Mr. Cohn	
		<b>History 123b. The Reformation</b>	Usually offered every third year. Mr. Schneider	

History 124b. <b>Social and Cultural Transformations: The Renaissance and the Reformation</b>	Usually offered in even years. Mr. Cohn	History 138a. <b>Economy and Society in Europe, 1750-1900</b>	Usually offered in even years. Ms. Kelikian
History 125a. <b>Europe in an Age of Crisis, 1550-1700</b>	Usually offered in even years. Mr. Schneider	History 138b. <b>Industrial and Social Change, 1900 to the Present</b>	Usually offered in odd years. Ms. Kelikian
History 126b. <b>Tudor-Stuart England</b>	Usually offered in odd years. Mr. Schneider	History 139a. <b>Women, Work and Family</b>	Usually offered in odd years. Ms. Kelikian
History 127b. <b>Early Modern France</b>	Usually offered in even years. Mr. Schneider	History 139b. <b>Fascism East and West</b>	Usually offered every third year. Ms. Kelikian
History 130a. <b>The French Revolution</b>	Usually offered in even years. Mr. Black	History 141b. <b>Studies in British History: 1830 to the Present</b>	Usually offered every third year. Mr. Black
History 131a. <b>The Scientific Revolution</b>	Usually offered in even years. Ms. Daston	History 142b. <b>Twentieth Century Europe</b>	Usually offered every third year. Mr. Wasserstein
History 132a. <b>Modern European Thought and Culture: Marlowe to Mill</b>	Usually offered in even years. Mr. Binion	History 146b. <b>Topics in German History: Hitler, Germany and Europe</b>	Usually offered every third year. Mr. Binion
History 132b. <b>European Thought and Culture Since Darwin</b>	Usually offered in even years. Mr. Binion	History 147a. <b>Rise of Imperial Russia</b>	Usually offered in even years. Ms. Freeze
History 133a. <b>The Enlightenment</b>	Usually offered every year. Ms. Daston	History 147b. <b>Russia Since 1861</b>	Usually offered in even years. Ms. Freeze
History 133b. <b>Topics in Nineteenth and Twentieth Century Intellectual History</b>	Usually offered every third year. Mr. Binion	History 149a. <b>Topics in Soviet History</b>	Usually offered in odd years. Mr. Freeze
History 134a. <b>Nineteenth Century Europe: From Revolution to National Unification</b>	Usually offered every year. Mr. Black	History 173a. <b>Topics in Latin American History: The Andean Region from 1400 to the Present</b>	Usually offered in even years. Mr. Gootenberg
History 134b. <b>Nineteenth Century Europe: Nationalism, Imperialism, Socialism (1870-1914)</b>	Usually offered in even years. Mr. Black	History 181b. <b>Seminar on Chinese Thought</b>	Usually offered every year. Mr. Schrecker
History 137a. <b>Evolution of the International System, 1815-1945</b>	Usually offered in odd years. Mr. Schuker		

<b>History 183b. The Great Powers of the Middle East</b>	Usually offered in odd years. Mr. Wasserstein	<b>History 186b. The Vietnam War</b>	Usually offered every year. Mr. Schrecker
<b>History 184a. Arabs and Jews in Palestine, 1881-1948</b>	Usually offered in odd years. Mr. Wasserstein	<b>History 194b. Politics and Diplomacy in Europe, 1914-1945</b>	Usually offered in odd years. Mr. Schuker

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## Comparative Literature

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See Joint Program of Literary Studies

# Computer Science

<b>Objectives</b>	Research in computer science at Brandeis is concerned with the fundamental concepts that underlie the creation and use of computing devices. This includes the study of the capabilities and limitations of various models of computation, the design of efficient computer algorithms, semantics of programming languages, artificial intelligence, the principles underlying the mechanical processing of information and the organization of information for computer processing. The graduate program in computer science is designed to educate the student in advanced areas of computer science and train the student to engage in original research. The program is designed primarily to lead to the Doctor of Philosophy degree.	<b>Admission</b>	The general requirements for admission to the computer science graduate program are the same as those for the graduate school as a whole. Funds from research grants and fellowships are available to provide financial support for well-qualified students.
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## Faculty

Professor <b>Jacques Cohen</b> , Chair: Compiler design. Analysis of algorithms. Logic programming. Data structure.	Visiting Associate Professor <b>Edward Balkovich</b> : Compiler design. Computing.	Associate Professor <b>Max Chretien</b> : Distributed computing.	Associate Professor <b>Ira M. Gessel</b> : Combinatorics. Algorithms.	Assistant Professor <b>Richard Alterman</b> : Artificial intelligence.	Assistant Professor <b>Timothy J. Hickey</b> : Complexity. Analysis. Logo programming and parallel processing. Symbolic manipulation.	Assistant Professor <b>James Pustejovsky</b> : Syntactic theory and logical form. Computational linguistics.	Lecturer with rank of Assistant Professor <b>Alex T. Prengel</b> :
Professor <b>David L. Waltz</b> : Artificial intelligence. Natural language processing. Vision. Robotics.	Associate Professor <b>James A. Storer</b> : Computational complexity. Design and analysis of algorithms. Parallel algorithms. Data compression. VLSI layout. Computational aspects of robotics.	Associate Professor <b>Harry G. Mairson</b> : Theory. Analysis of algorithms. Lower bounds.	Instructor <b>James Miller</b> : Parallel processing. List language.				

## Degree Requirements

**Doctor of Philosophy** Two years' residence as a full-time student.

Completion of a doctoral dissertation that is approved by the department, and successful defense of that dissertation.

**Program of Study.** An approved schedule of courses typically consists of eight to 10 graduate courses at the 100 and 200 level, which may include a small number of courses from other departments (e.g., mathematics, psychology and physics). These courses are supplemented with independent study in preparation for the qualifying examination. The qualifying examination is normally taken at the end of the second year. The Ph.D. dissertation is normally written during the third and fourth years. It is expected that during this time the student will participate in advanced seminars (computer science courses numbered in the 300s) and other departmental research activities.

## Qualifying Examinations.

The qualifying examination consists of two parts. The first part consists of a set of four written examinations in areas selected by the student and approved by the faculty. The second part of the qualifying examination is an oral examination to be administered by the computer science faculty.

## Admission to Candidacy.

To be admitted to candidacy for the Ph.D. degree, the student must satisfactorily complete an approved schedule of courses as a full-time student and demonstrate superior performance on the qualifying examination.

## Language Requirement.

There is no foreign language requirement for the doctoral degree.

## Dissertation and Defense.

The doctoral degree will be awarded only after the submission and acceptance of an approved dissertation and after the successful defense of that dissertation.

## Courses of Instruction

Computer Science 110a. <b>Artificial Intelligence</b>	Artificial intelligence principles and state-of-the-art. Knowledge representation, knowledge based systems, reasoning, learning, natural languages understanding, machine vision, massively parallel models of cognition; selected relevant results from psychology and linguistics.	Computer Science 170a. <b>Information Theory and Cryptology</b>	This course will examine the theory of representing information compactly and securely. The Shannon theory shows the duality between reliability and security. One-way ciphers and public-key systems currently under scrutiny rely on the computational complexity of algorithms. We will examine these new approaches as well as traditional secrecy systems both from the standpoint of the designer and the cryptanalyst.
	Usually offered every year.		Usually offered every year.
	Mr. Waltz		Mr. Cohn
Computer Science 120a. <b>Computer Architecture</b>	The design and analysis of data communication networks. Topics will include protocols, switching, topology and measurement. Examples will be drawn from existing network architecture.	Computer Science 180a. <b>Algorithms</b>	Basic concepts in the theory of algorithm design and analysis, including: advanced data structures and algorithms, NP and PSPACE completeness parallel algorithms, and specialized topics selected by the instructor.
	Usually offered every year.		Usually offered every year.
	Mr. Kirsch		Mr. Storer
Computer Science 140a. <b>Logic Programming</b>	Relationship of Prolog to predicate calculus, horn clauses, unification algorithms, intelligent backtracking, infinite trees, inequalities, implementation issues, concurrent Prolog.	Computer Science 190a. <b>Theory of Computation</b>	A gradual introduction to the theory of computation. Topics covered include formal language and automata, undecidability and computability, complexity classes, relativized problems, elementary recursion theory, automatic theorem proving and inductive inference.
	Usually offered every year.		Usually offered every year.
	Mr. Hickey		Staff
Computer Science 150a. <b>Compiler Design</b>	Covers advanced topics in parser and lexical scanner generation, data flow analysis, code generation, parallel compilation.	Computer Science 215b. <b>Advanced Topics in Artificial Intelligence</b>	Topics for this course are selected annually by the staff.
	Usually offered every year.		Usually offered every year.
	Mr. Hickey		Staff
Computer Science 160a. <b>Parallel and Distributing Computing</b>	An introduction to distributing computing. Topics include the description of the basic problems — mutual exclusion, dining philosophers, philosophers, cooperation; centralized solutions vs. distributed solutions; communication by shared memory vs. communication by messages; shared memory models; read-write variables vs. read-only variables test vs. test-and-set; message passing systems; types of lines of communication; language issues: parallelism in Simula, PL/I, Algo 168 (semaphores) Monitors, CS, Ada, Scheme; semantic issues: denotational semantics for parallelism; synchronous models (e.g., PRAMs and Ultracomputers).	Computer Science 230a. <b>Computational Aspects of VLSI</b>	The course is primarily concerned with the theoretical issues involved with the design and layout of VLSI circuits, however, many practical issues will be addressed along the way, in particular, students will be required to design a small nMOS chip. Topics covered include: circuit layout, resource trade-offs and limits to computations, parallel computation, computation networks, systolic arrays, VLSI design tools, "silicon compilation," and concepts motivated by future technology (e.g., 3D circuits, wafer-scale integration, optical circuits, etc.).
	Usually offered in odd years.		Usually offered in even years.
	Staff		Mr. Storer
Computer Science 240a. <b>Semantics of Programming Languages</b>	Mathematical description of basic concepts of programming languages. Modeling using the lambda-calculus. Derivation of compilers from formal descriptions of languages.	Computer Science 240a. <b>Semantics of Programming Languages</b>	Usually offered in even years.
			Staff

Computer Science 285a.	Content of course will vary from year to year.	Computer Science 390d.	Usually offered in even years.
<b>Advanced Topics in Algorithms and Computational Complexity</b>	Usually offered in even years. Staff	<b>Seminar in Theory of Computation</b>	Staff
Computer Science 310d.	Usually offered in even years.	Computer Science 400d-404d.	400d. Mr. Cohen 401d. Mr. Waltz
<b>Seminar in Artificial Intelligence</b>	Staff	<b>Dissertation Research</b>	403d. Mr. Gessel 404d. Mr. Storer
Computer Science 340a.	Usually offered in even years.		
<b>Seminar in Programming Languages</b>	Staff		

## Cross-Registration at Boston College, Boston University and Tufts University

A full-time graduate student at Brandeis University may enroll in one graduate course each term at Boston College, Boston University or Tufts University. Brochures suggesting courses for cross-registration at each of the host institutions are available at the graduate school office of each institution.

A student who wishes to enroll in a course at one of these institutions should consult with the instructor in the particular course and should expect to satisfy the prerequisites and requirements normally required

for admission to the course, including adherence to the academic calendar of that course.

A student at Brandeis University who wishes to enroll in a graduate course at one of the host institutions should obtain a registration permit from the Graduate School Registrar and should present this permit to the Graduate School Registrar of the host institution.

## Economics

See International Economics and Finance

## English and American Literature

### Objective

The graduate program in English and American Literature is designed to offer training in the interpretation and evaluation of literary texts with some attention to related scholarly disciplines, particularly history and linguistics. It also offers candidates who have some ability in writing an opportunity to pursue this interest as a normal part of the graduate program.

### Admission

Candidates for admission should have a bachelor's degree, preferably with a major in English and American literature, and a reading knowledge of French, Italian, German, Greek or Latin. They should submit two samples of written work, prose and/or poetry. The general requirements for admission to the Graduate School, as specified in an earlier section of this catalog, apply to candidates for admission to this area of study.

### Faculty

**Professor Susan Staves,**  
Chair:  
Restoration and  
eighteenth century.

**Professor Philip Fisher:**  
Nineteenth-century  
literature. Critical  
theory.

**Professor Michael T. Gilmore:**  
Puritanism. Literature  
of the American  
Revolution. American  
renaissance.

**Professor Eugene Goodheart:**  
Criticism. Nineteenth-  
and twentieth-century  
literature and thought.

**Professor Allen Grossman:**  
Poetry and poetic  
structures.  
Seventeenth-century  
literature. Modern and  
contemporary  
literature.

**Professor Peter Swiggart:**  
American literature.  
Critical theory.

**Visiting Professor Peter Hughes:**  
Eighteenth-century  
literature.

**Visiting Fannie Hurst  
Professor Sue Miller:**  
Fiction.

**Visiting Fannie Hurst  
Professor Gloria Naylor:**  
Fiction.

**Visiting Professor Judith Wilt:**  
Nineteenth-century  
literature.

**Associate Professor Karen W. Klein:**  
Medieval literature.  
Women's studies.

**Associate Professor Alan Levitan,**  
Director of Graduate  
Studies: Shakespeare,  
Music and drama.  
Oriental drama.

**Associate Professor Richard J. Onorato:**  
Modern literature.

**Visiting Associate Professor Mary E. Nyquist:**  
Renaissance literature.  
Women's studies.  
Feminist theory.

**Assistant Professor John Burt:**  
American literature.  
Romanticism.

**Assistant Professor Marilyn Mobley:**  
American and Afro-  
American literature.

**Assistant Professor Lennard Davis:**  
History and theory of  
the novel. Eighteenth-  
century literature.

**Assistant Professor William Flesch:**  
Renaissance.  
Romanticism. Theory.

**Assistant Professor Anne Janowitz:**  
Romantic and modern  
poetry; film.

**Assistant Professor Helena Michie:**  
Victorian literature.  
Women's studies.  
Literary theory.

**Lecturer Tanya Gardiner-Scott:**  
Medieval literature.  
Twentieth-century  
fiction.

**Poet-in Residence Frank Bidart:**  
Poetry.

## Degree Requirements

Following are the degree requirements for the Department of English and American Literature. Students should also consult the General Degree Requirements and Academic Regulations found in an earlier section of this catalog.

### Master of Arts

<b>Program of Study.</b>	Each student will take English 200a. In addition, a normal program will consist of five courses, at least three of which will be 200-level seminars. Students must also register for English 295b (Major Text Examination).	<b>Dissertation Field Examination.</b>	All candidates for the Ph.D. will be asked to pass an oral examination in the historical period or genre in which the candidate expects to write a dissertation. This examination is taken in the third year. The examination may be taken as many times as necessary without prejudice to a student's standing in the Ph.D. program.
<b>Residence Requirement.</b>	The minimum residence requirement is one year, though students with inadequate preparation may require more.	<b>Residence Requirement.</b>	The minimum residence requirement is one year beyond the master's degree or two years beyond the bachelor's.
<b>Language Requirement.</b>	A reading knowledge of a major foreign language (modern European, ancient Greek, Biblical Hebrew or Latin). The completion of the language requirements at another university does not exempt the student from the Brandeis requirement.		
<b>Qualifying Examination.</b>	An examination, oral and written, will be given by committees of faculty members, at the beginning of the spring term on one of several major texts, the texts to be announced at the end of the fall term. This examination will test a student's ability to read and understand a major literary work or a group of short works by the same author. Admission to the Ph.D. program in addition to qualification for the M.A. degree will depend upon the results of this examination, and upon the student's performance in courses.		

### Doctor of Philosophy

<b>Admission to the Ph.D. Program.</b>	(1) Students who complete, with distinction, the M.A. requirements at Brandeis University are admitted to the Ph.D. program by the department upon recommendation of the Committee on Graduate Studies.  (2) Students who enter with a master's degree or a full year of graduate work in English from another university are required to fulfill the qualifying examination requirement described above under the Master of Arts Program. Provided this requirement is fulfilled, such students may, at the department's discretion, be admitted to the Ph.D. program after successful completion of a year at Brandeis and upon recommendation by the Committee on Graduate Studies. At the time of admission up to a year's residence and course credit for work completed elsewhere may be granted.	<b>Training in Teaching.</b>	Provided openings exist, students in their second and third year in the program can expect to be awarded at least one teaching assistantship each year, provided their academic work is of high calibre.
<b>Program of Study.</b>	Second year students continue to take courses, usually two a semester. Students have an obligation to review their preparation in the field with their advisors and to ensure that they are acquiring both a comprehensive knowledge of the various historical periods and genres of English and American literature and a more profound knowledge of the particular period or field they propose to offer as a specialty. With the exception of English 200, no specific courses	<b>Admission to Candidacy.</b>	A student will be recommended by the department for admission to candidacy for the Ph.D. degree after completing with distinction the program of study and satisfying all departmental requirements prior to the writing and defense of a dissertation. A student admitted to candidacy must have submitted a formal dissertation proposal, subject to approval by the student's dissertation director and by an additional member of the departmental faculty.
		<b>Dissertation and Defense.</b>	Each student will submit a dissertation in a form approved by his or her dissertation director and by a committee appointed by the Director of Graduate Studies. The student will defend the dissertation at a final oral examination. The dissertation may be a monograph, a series of closely related essays, a bibliographical project or a textual project.

## Courses of Instruction

<b>English 122a. The Medieval World: Britain before the Conquest</b>	<p>An introduction to the language and literature of Anglo-Saxon. Readings will include selections from Bede, <i>The Chronicle</i>; charms, riddles, the major extant short poems and the epic poem <i>Beowulf</i>.</p>	<b>English 126a. American Realism and Naturalism 1865-1900</b>	<p>The principal concern of this course will be how some of the central American Realists and Naturalists set about representing and analyzing American social and political life. Topics of discussion will include the changing status of individuals, classes and genders; the relations between the individual and the natural and social determinants of personal destiny; ideas concerning the nature and texture of personal experience. Authors will include James, Twain, Howells, Crane, Wharton, Dreiser, Chopin, Frederic, Norris, Sinclair.</p>
<b>English 122b. The Medieval World: England from the Conquest to the Renaissance</b>	<p>A cultural study of this period with particular attention to the idealized fantasies, centering on the figure of Arthur, of the aristocratic class; the yoking of literary energies to intense religiosity; and the emergence of a literature reflective of wider urban and social realities. Readings will be drawn from history, Romance, lyric, drama and the poetry of Chaucer.</p>	<b>English 127a. Joyce and Lawrence</b>	<p>Usually offered every year.</p>
<b>English 125a. Romanticism I: Blake, Wordsworth and Coleridge</b>	<p>We will read the major poetry and some prose by the first generation of English Romantic poets. Our purpose is both to define the common ground of the Romantics' poetic, philosophical and political goals, and to determine the singularity of each writer's achievement. Topics we will address include: Romantic genres, the relationship between the "visual" and the "visionary," Romantic Orientalism and Medievalism, and the impact of the French Revolution. (In alternate years, ENG 135 will include the poets listed above and Byron, Shelley and Keats.)</p>	<b>English 127b. Contemporary and Avant-Garde in Fiction</b>	<p>Usually offered every year.</p>
<b>English 125b. Romanticism II: Byron, Shelley and Keats</b>	<p>Often considered the "younger generation" of Romantic poets, Byron, Shelley and Keats both continue and react against the poetic, political and philosophical preoccupations and positions of their immediate elders. We will read the major poetry and some prose by Byron, Shelley and Keats, as well as reading Mary Shelley's <i>Frankenstein</i>. Topics will include: The Byronic Hero, Shelley and the ideology of Free Love, the impact of the figure of Napoleon, Keats' Romantic Medievalism.</p>	<b>English 128b. The Modernist Revolution</b>	<p>Usually offered every year.</p>
	<p>Usually offered in odd years.</p>		<p>Mr. Goodheart</p>
	<p>Ms. Janowitz</p>		<p>Against the background of the "modernism" of the earlier twentieth century, this course will consider the contemporary scene in fiction. The assimilation of earlier experimental techniques and attempts at continuing avant-gardism will be considered. American writers, writers in English from England and the several other English-speaking countries, and some writers in translation will be covered to show how central American writing has become to American readers and yet how international serious writing and reading has become in the wake of modernism.</p>
	<p>Usually offered in even years.</p>		<p>Mr. Onorato</p>
	<p>Ms. Janowitz</p>		<p>Usually offered every year.</p>
			<p>Mr. Bidart</p>

English 131b. <b>Writing in the “Wild Zone: Charting Feminist Literary Theory</b>	Feminism is accused of having no base in theory. While some feminists see the enabling possibilities of transcending traditional notions of “discipline,” others are in the process of defining for feminism a theoretical territory on the margins of patriarchal culture. This course looks at the contributions of various theories to the feminist project, and examines, in turn, what feminism can suggest to Marxists, Freudians, deconstructionists and others. We will be using both “primary” and “secondary” sources including works by Rich, Gallop, Spivak, Gilbert and Cubar, and Daly.	English 137b. <b>Yeats, Rilke, Freud</b>	An intensive reading of two modern poets in the light of the Freudian description of mind. The intent of the course is to read the account of the person which is sponsored by Yeats and Rilke (the poetic account of the person) as in contention with the psychoanalytic account of the mind, and to assess the meaning and utility of Freudian knowledge as a supplement to poetic knowledge.
	Usually offered in odd years.		The course will attend with particular care to Freud's theory of dreams and its relationship to the use and value of dreams in the practice of poets. Yeats' poems will be read through, as well as his narrative and psychological writings. In the work of Rilke the course will focus on the <i>New Poems</i> , the <i>Elegies</i> and the <i>Sonnets to Orpheus</i> , as well as to the letters and the <i>Notebooks of Malte Laurids Briggs</i> .
English 132b. <b>Chaucer</b>	Usually offered in every four years. Staff		Usually offered in odd years.
English 133a. <b>Advanced Shakespeare</b>	Usually offered every third year. Staff	English 138a. <b>Fiction and Social Change</b>	Mr. Grossman
English 134a. <b>The Women of Letters in the Eighteenth Century</b>	Usually offered every year. Ms. Staves		What is the relationship between fiction and social change? We will read and discuss major works of fiction in both the English and American traditions that deal with social mobility, race and colonialism, industrialization, marriage and class. We will explore the cultural similarities and differences reflected in the works drawn from the two traditions. Texts will include Austen, <i>Pride and Prejudice</i> ; Dickens, <i>Great Expectations</i> ; Twain, <i>A Connecticut Yankee in King Arthur's Court</i> ; James, <i>Washington Square</i> ; and Fitzgerald, <i>The Great Gatsby</i> .
English 135b. <b>Romanticism</b>	Major poetic texts by Blake, Wordsworth, Coleridge, Keats, Shelley and Byron, with some attention to their prose, and to Dorothy Wordsworth's <i>Journals</i> and Mary Shelley's <i>Frankenstein</i> . Our purpose is both to define the common ground of the Romantics' poetic, political and philosophic goals, and to determine the singularity of each writer's achievement. Topics we will address include: Romantic genres, the “Romantic Woman,” Romantic Medievalism and Orientalism, and the relationships between the “visionary” and the “visual.”		Usually offered every fourth year.
	Usually offered every year. Ms. Janowitz		Messrs. Gilmore and Goodheart
English 137a. <b>Twentieth-Century Poets: Poetics of Modernism</b>	Taking <i>The Waste Land</i> , <i>Paterson</i> and <i>The Cantos</i> as central texts, this course will explore the theory and practice of modernist poetics. Topics will include: poetic montage, poetics of the city, modernist genre, impersonality, poetry and politics.	English 140b. <b>Wordsworth and Yeats</b>	A study of the careers, major poems, ideas and forms of these two poets. The work of art in its relation to experience and performance, sensation and form, politics and personal history will be at the center of the intensive study of major poems.
	Usually offered in even years. Ms. Janowitz		Usually offered in odd years.
		Mr. Fisher	
English 143a. <b>Elizabethan and Jacobean Drama</b>		English 143a. <b>Elizabethan and Jacobean Drama</b>	A study of the Revenge tradition in the work of Shakespeare and his contemporaries. The problem of blood revenge will be looked at as an historical phenomenon in Renaissance society and as a social threat transformed into art in such dramatists as Shakespeare, Marlowe, Kyd, Marston, Tourneur, Chapman and Webster.
			Usually offered every year.
		Mr. Levitan	
English 143b. <b>English Drama before Shakespeare</b>		English 143b. <b>English Drama before Shakespeare</b>	A representative selection of medieval and Tudor plays (liturgical, miracle, mystery, morality, interlude, early and transitional comedy and tragedy).
			Usually offered every third year.
		Staff	

<b>English 145b. Victorian Poetry and Poetics</b>	<p>This course will examine major nineteenth-century poetic texts in the context of the social, religious, class, scientific, urban and sexual crises of the Victorian period. Focus on works by Tennyson, the Brownings, Arnold, Clough, the pre-Raphaelites, Hopkins. Topics will include Victorian medievalism and Hellenism, poetic texture and form, relations between poetry and painting, class and gender in narrative poems, "voice" in the Victorian lyric.</p>	<b>English 153a. Poetry, Philosophy and Politics in the Seventeenth Century</b>	<p>The period from the first production of Shakespeare to the Glorious Revolution saw enormous changes in the way people in England reflected upon what it meant to be human, and on what it meant to be English; these changes were mirrored in the literature, politics and philosophical writings of the time. We will attempt to chart and correlate some of these changes, looking at debates in prose, but also in poetry, between Puritans and Cavaliers, and at the philosophical instigators and/or consequences of these debates.</p>
	<p>Usually offered in even years.</p>		<p>Usually offered in even years.</p>
<b>AAAS 149a. Black Women Writers</b>	<p>Ms. Janowitz</p> <p>This course will examine the fiction, poetry and drama of black women writers from the Harlem Renaissance to the present. It will explore such issues as the literary traditions from which they write, the matrix of myth and folklore, the Afro-American vernacular, historical and cultural constructions of race and gender, narrative strategies and linguistic styles. Writers to be studied include: Nella Larsen, Zora Neale Hurston, Ann Petry, Gwendolyn Brooks, Lorraine Hansberry, Paule Marshall, Alice Walker, Toni Cade Bambara, Toni Morrison and Ntozake Shange. Supplemental readings will be taken from literary and feminist theory. This course will have a lecture/discussion format and will require that students write a term paper and take a mid-term and final examination.</p>	<b>English 153b. Milton</b>	<p>Mr. Flesch</p> <p>This course contemplates Milton primarily as the author of <i>Paradise Lost</i>. We will also read Milton's other major works <i>Lycidas</i>, <i>Paradise Regained</i>, <i>Samson Agonistes</i> as well as some of his shorter poems and some selections from his prose, in order to understand his stake, both political and poetic, in his own writing.</p>
	<p>Usually offered in odd years.</p>		<p>Usually offered in odd years.</p>
	<p>Ms. Mobley</p>		<p>Mr. Flesch</p>
<b>English 147b. Modern British and American Drama</b>	<p>Usually offered in odd years.</p>	<b>English 155b. Lawrence and the Moral Tradition</b>	<p>Usually offered every fourth year.</p>
	<p>Ms. Mobley</p>		<p>Mr. Goodheart</p>
	<p>Usually offered in odd years.</p>		
	<p>Mr. Swiggart</p>	<b>English 157a. The Post-Modern Generation: Contemporary Poetry</b>	<p>An introduction to recent poetry in English, dealing with a wide range of poets as well as striking and significant departures from the poetry of the past. We will look, where possible, at individual volumes by each author—the list will probably include Robert Lowell, Elizabeth Bishop, Allen Ginsberg, Frank O’Hara, John Ashbery, Sylvia Plath, Adrienne Rich, James Merrill, Allen Grossman, Seamus Heaney, Louise Glück, Robert Pinsky and Michael Palmer.</p>
	<p>Usually offered every fourth year.</p>		<p>Usually offered every year.</p>
	<p>Mr. Swiggart</p>		<p>Mr. Bidart</p>
	<p>Usually offered every fourth year.</p>		
<b>English 148b. Classical Background of English Literature: Epic and Pastoral Poetry</b>	<p>Staff</p>	<b>English 158a. American Poetry</b>	<p>Usually offered in even years.</p>
	<p>Usually offered every fourth year.</p>		<p>Staff</p>
	<p>Staff</p>	<b>English 163a. Renaissance Poetry</b>	<p>In this course we will be concerned primarily with the kind of lyric first written by Wyatt, and evolved and extended by Sidney, Spenser and Shakespeare (particularly the sonnets); and with its sometimes surprising elaborations in the work of seventeenth-century poets, mainly Donne, Herbert, Milton and Marvell.</p>
	<p>Usually offered every year.</p>		<p>Usually offered every year.</p>
	<p>Mr. Flesch</p>		
<b>English 151b. Contemporary Critical Theories: The Politics of Criticism</b>	<p>Usually offered every year.</p>	<b>English 164b. Restoration and Eighteenth-Century Drama</b>	<p>Usually offered every year.</p>
	<p>Staff</p>		<p>Ms. Staves</p>
	<p>Usually offered every year.</p>		
	<p>Staff</p>		

English 165a. <b>Social Novel in the Nineteenth Century</b>	Usually offered every year. Mr. Goodheart	English 177b. <b>Contemporary Writers</b>	In this course we will study writers whose major work has been done after the Second World War. Each text will be looked at in the literary context of the Post-Modern novel, the political context of emerging voices of women and minorities, and the social context of mass media which are predominantly visual. Particular attention will be given to gender in the creation of character, in authorial voice and in the implications for literary theory. This course will be taught with a dialogue lecture and an open discussion session per week. Novelists studied will be selected from Lessing, Gordimer, Atwood, Morrison, Oates, Bellow, Hawkes, Pynchon, Roth, Mailer, Kundera, Calvino.
English 173a. <b>Spenser and Milton</b>	A course on poetic authority: the poetry of authority and the authority of poetry. Spenser and Milton will be treated individually, but the era they bound will be examined in the terms of the tensions within and between their works. Readings will include <i>Epithalamion</i> , the whole of <i>The Fairie Queene</i> , parts of <i>The Shephearde's Calendar</i> and <i>Astrophell</i> by Spenser; and <i>Paradise Lost</i> , <i>Paradise Regained</i> , <i>Samson Agonistes</i> , <i>Aeropagitica</i> and <i>Eikonoklastes</i> by Milton.	Usually offered in odd years. Mr. Flesch	Usually offered in odd years. Ms. Klein and Mr. Onorato
Comparative Literature 174a. <b>Sex, Class and Literature in Europe: 1830-1914</b>	Usually offered in odd years. Ms. Harth	English 180a. <b>The Modern American Short Story</b>	This course will focus on the American story, particularly in its twentieth-century evolutions. We will read Melville and Crane to prepare for our study of Fitzgerald, Hemingway, Faulkner, Anderson, Shirley Jackson, Ambrose Bierce, Flannery O'Connor, Cheever, Roth, Malamud, Gass, Paley, Barth, Elkin, Beattie, Carver, Jayne Ann Phillips, Updike and others. The genre will be investigated by close attention to matters of craft: narrative design, point of view, voice, exclusion, time and transition, inference, syntax, release of information.
English 174b. <b>Eighteenth-Century Novel</b>	Early developments in English fiction with some attention to theories of narrative and problems in the practical criticism of the novel. Emphasis on Defoe, Richardson, Fielding, Sterne and Austen.	Usually offered every year. Mr. Davis	Usually offered every year. Mr. Wolff
English 175b. <b>City and Psyche in Victorian Literature</b>	An examination of the shock of urban living on early inhabitants of industrialized society. The course will cover rural and small-town experience, life in London and, finally, sea adventures and English contact with the "third world." Writers include Mrs. Gaskell, Dickens, Gissing, Hardy, Trollope, Eliot, Conrad, Stevenson, Kipling.	Comparative Literature 185a. <b>Dickens and Dostoevsky</b>	Usually offered every four years. Staff
English 176a. <b>American Gothic and American Romance</b>	Usually offered in even years. Staff	English 187a. <b>The Modern Novel</b>	A course in the major novelists of the early twentieth century, stressing their experiments with subject matter, narrative technique and prose style that resulted in the distinctly twentieth-century sense of the "modern" fiction. Authors will be chosen from Conrad, Mann, Gide, Proust, Woolf, Lawrence, Ford, Forster, Kafka, Faulkner and Hemingway.
English 176b. <b>Hawthorne, Melville and Poe</b>	Readings will include <i>Moby Dick</i> , <i>The Narrative of Arthur Gordon Pym</i> , <i>The Scarlet Letter</i> and <i>The Marble Faun</i> , as well as short novels by all three authors.	Usually offered every four years. Mr. Swiggart	Usually offered every year. Mr. Onorato

English 197b. <b>The Political Novel in the Twentieth Century</b>	Defining politics as strategies of power, we will look at these strategies in sexual, racial, economic and ideological terms as they are represented in primarily British and American novels of the twentieth century. Beginning with the works of Conrad and Kafka, whose interests and explorations opened the novel to overtly political themes, we will read novels by Orwell, Koestler, Golding, Greene, Lessing, Gordimer, Coetzee, Naipaul, Walker, Doctorow, Kundera. We will focus on literary responses to various systems of oppression and literary depictions of the body in public and institutional spaces, such as prisons and hospitals, rather than private and domestic spaces, the more usual locus for narrative.	Usually offered every four years.	Ms. Klein
Linguistics 140a. <b>History of the English Language</b>	Usually offered in even years.	Ms. Maling	Ms. Michie
Seminars			
English 200a. <b>Methods of Literary Study</b>	Traditional methods and projects of literary study, including research into literary history and criticism, finding of manuscripts and rare books, and scholarly editing. Students will not solve problems again which have already been solved, but will work collectively to do original work on a neglected eighteenth-century woman writer, Elizabeth Griffith. The argument will be advanced that valid work in literary theory and criticism still depends on the adequacy and accuracy of such traditional scholarship. <b>Required of all first-year students.</b>	Usually offered every year	Ms. Staves
English 226b. <b>Whitman and Dickinson</b>	This seminar will undertake to read the whole body of the writings of these two poets. Particular attention will be directed toward the analysis of poetic structures, and the articulation of poetic intention in Whitman and Dickinson against the background of Anglo-American poetics and post-Romantic conceptions of poetic function.	Usually offered every third year.	Mr. Grossman
English 234b. <b>Eighteenth-Century Novel</b>	The works of two novelists, Defoe and Richardson, will be studied in depth along with biographical and historical materials. In addition, students will use modern critical methodology—including psychoanalytic, structuralist and Marxist—to illuminate the narrative techniques of plot, character, dialogue, and setting.	Usually offered every three years.	Mr. Davis
English 235b. <b>Blake and Wordsworth</b>	Usually offered every third year.	Ms. Janowitz	
English 241a. <b>Structuralism and Post-Structuralism</b>	This course will be organized around the crises of signification, subjectivity, meaning, and value as they are tentatively embodied in the works of theorists from Levi-Strauss and Barthes to Lacan, Irigaray, and Derrida. Our discussion will focus primarily on two recurring problems: the status of the real, the self, and realism, for which we will read some theoretical texts; and the intersection of the political and the linguistic, for which, as test cases, we will be reading contemporary poetry by women and by sexual and racial minorities.	Usually offered every third year.	Ms. Michie
English 243b. <b>Sonnets and Lyrics: Tudor and Elizabethan</b>	This course will study the short poem between 1520 and 1600, in both the native tradition and the tradition of Italian influence. The major figures to be read include John Skelton, Wyatt, Surrey, Sidney, Spenser, Shakespeare, Campion, the writers of airs and madrigals, Jonson and the early Donne. Among the motifs to be examined are the development of the sonnet, the use of <b>persona</b> , Renaissance musical realization of lyric texts (Dowland, Campion, the madrigalists), the individualization of diction and metaphor, the satiric voice.	Usually offered every third year.	Mr. Levitan
English 246a. <b>American Romantic Fiction: Precursors and Classics</b>	This course will examine the origins and flowering of romanticism in the American novel. Authors to be considered will include: Charles Brockden Brown, Washington Irving, James Fenimore Cooper, Nathaniel Hawthorne, Herman Melville.	Usually offered every third year.	Mr. Gilmore
English 253b. <b>Milton</b>	Usually offered every third year.	Mr. Nyquist	
English 255a. <b>Political and Religious Romance in Nineteenth- Century Fiction</b>	We sometimes think of the nineteenth-century novel as confined to the home, working out its pre-Freudian psychological insights in the precincts of domestic realism. In fact the novel is saturated with the political and religious conflicts of the eighteenth and nineteenth centuries: the special focus of this seminar will be on the intersection of religion, politics, psychology, and romance. Novels to be considered include: Scott, <i>Old Mortality</i> ; Thackeray, <i>Henry Esmond</i> ; Dickens, <i>Barnaby Rudge</i> ; Gaskell, <i>North and South</i> ; C. Bronte, <i>Villette</i> ; C. Eliot, <i>Felix Holt</i> and <i>Daniel Deronda</i> ; Meredith, <i>Diana of the Crossways</i> ; Ward, <i>Hebbeck of Banisdale</i> ; Conrad, <i>Lord Jim</i> .	Usually offered every third year.	Ms. Wilt

English 256b. <b>American Realism</b>	Usually offered every third year. Mr. Swiggart	English 295b. <b>Studies in a Major Text</b>	Required of all first year students. Offered every year. Mr. Levitan	
English 257a. <b>Yeats and Stevens</b>	Our project in this course is to read Yeats and Stevens whole, as far as possible, for whatever truth and pleasure is in them, and (secondarily) to acquire sufficient knowledge of the technical scholarship which now attends the study of these poets to validate such statements as we may wish to make about them. Stress will be put on the separate histories of poetic structure and philosophical understanding which produce the specific character of the Irish and American poet, and also on the solutions of each (in the light of their discrete cultural situation) to the problems which they face in common—the imaging of persons, national identity in a post-colonial civilization and the transnational enigma of “modernity.” Yeats’ characteristic styles of construction—both metrical and philosophical—will likely be substantiated and problematized in the intricately syncretic, millennial cultures of (transcendental) pattern, and Stevens’ (following Whitman, Santayana and James) in the antithetical, archetypal strategy of the (immanent) matrix.	English 352-374a. and b. <b>Directed Research</b>	352a and b. Mr. Goodheart 354a and b. Mr. Preyer 356a and b. Mr. Swiggart 357a and b. Mr. Grossman 358a and b. Mr. Gilmore 359a and b. Ms. Klein 360a and b. Mr. Levitan 361a and b. Mr. Onorato 362a and b. Ms. Staves	365a and b. Mr. Fisher 367b. Mr. Wolff 368a and b. Mr. Burt 370a and b. Mr. Davis 371a and b. Mr. Flesch 372a and b. Ms. Janowitz 373a and b. Ms. Michie 374a and b. Mr. Morrison
English 276a. <b>American Gothic and American Romance</b>	Usually offered every three years. Mr. Grossman	English 402d-415d. <b>Dissertation Research</b>	402d. Mr. Goodheart 404d. Mr. Preyer 406d. Mr. Swiggart 407d. Mr. Grossman 408d. Mr. Gilmore	+09d. Ms. Klein +10d. Mr. Levitan +11d. Mr. Onorato +12d. Mr. Staves +15d. Mr. Fisher

## French

See Joint Program of Literary Studies

## German

See Joint Program of Literary Studies

## History

See Comparative History

## History of American Civilization

### Objectives

The graduate program in the History of American Civilization, leading to the degree of Doctor of Philosophy in History, has been designed primarily to educate professional scholars and teachers of American history. The curriculum emphasizes both a comprehensive understanding of American history and the mastery of historical research and writing. For a comparative view of the American experience, students will undertake selective studies in modern European, Asian, Latin American or African history.

A small, select student body works closely with the faculty in independent reading and research courses. From the beginning, individual programs are developed to prepare students for their qualifying examinations and to guide them toward their dissertation research. Normally, the first year's work is concentrated in American history, including substantial experience in directed research and a critical approach to problems of historiography. Second-year students, while pursuing further directed research, chiefly are encouraged to choose courses to complete their preparation in the examination fields. Studies in related fields are arranged individually with appropriate members of the University's graduate faculty, either through standard courses or directed readings. For selected

students with appropriate qualifications, there are opportunities for advanced study and research with distinguished scholars at neighboring universities in such fields as legal history and business history. Applicants should note with care the four parts of the examination, specified under Degree Requirements, in which all students are expected to demonstrate proficiency.

### Admission

The general requirements for admission to the Graduate School, given in an earlier section of the catalog, apply to candidates for admission to this program. An undergraduate major in history is the preferred preparation for admission, and the student's undergraduate curriculum should include some fundamental courses in American history and related fields in the social sciences or humanities. Students with the M.A. in history, or a professional degree in law or other related fields, are especially invited to apply. Students interested in Crown Fellowships or in the special arrangements for study in professional fields at neighboring universities, noted above, should submit applications by March 1.

### Faculty

#### Executive Committee and Staff

Associate Professor  
**Christine Heyrman**,  
Chair:  
Community, religion  
and economic colonial  
America.

Professor  
**David Hackett  
Fischer**:  
Social and political  
structure. Early  
Republic.

Professor  
**Morton Keller**:  
Legal and political  
institutions. Modern  
America.

Professor  
**Stephen Whitfield**:  
Modern America.  
Cultural history.

Professor  
**Donald Worster**:  
Environmental  
history. Frontier and  
West. Rural history.

Associate Professor  
**Gerald S. Bernstein**:  
American art and  
architecture.

Associate Professor  
**James T.  
Kloppenberg**:  
Modern intellectual  
history.

## Degree Requirements

### Master of Arts

No one will be accepted in the program who is not a doctoral candidate. Applications from persons seeking a terminal M.A. degree are not welcome. However, the M.A. degree in History may be awarded to those who (1) have successfully completed one full year of residence at Brandeis University (eight half-courses), including two 200-level research courses, and (2) have passed the foreign language requirement.

### Doctor of Philosophy

#### Program of Study.

Doctoral candidates must complete two years in residence at Brandeis, and a minimum of sixteen semester courses. Programs of study and concentration will be formulated for each student, subject to the approval of the Executive Committee. Students will be required to maintain an average of B- or better in order to continue in the program. Continuance of fellowship support requires an average of A- or better. Incoming students normally will be expected to take one full course of Directed Research in American History in their first year of residence. The Committee may, at its discretion, grant a student transfer credit of up to one year toward the Ph.D. residence requirement for relevant graduate or professional work done elsewhere. Application for such credit shall be considered only after a student has completed one semester's residence in a full-time program. The second 200-level Directed Research course may be waived by the committee on the basis of a master's thesis or comparable research project at the graduate or professional level done elsewhere. In the first year all students enroll in the Colloquium in American History; in the second year the Colloquium in Comparative History.

#### Language Requirement.

A high level of reading proficiency in one foreign language is required of all students. Students are expected to pass the language examination during the first year of residence. A student who has not passed the foreign language examination by the end of the first year is not eligible for financial aid from the University for the second year. The completion of language requirements at another university does not exempt the candidate from the Brandeis requirement.

#### Qualifying Examination.

Each doctoral candidate must pass at the doctoral level a qualifying examination in the following four fields: (1) general American history, one examiner to be in early American history and the other in modern American history; (2) a period of specialization in American history; (3) an area of comparative modern European, Asian, Latin American or African history; (4) a related discipline in the social sciences or humanities or a subdiscipline in history. All proposed fields must be submitted in writing and approved by the Executive Committee. The period of specialization will normally be selected from the following: 1607-1763, 1763-1815, 1815-1877, 1877-1914, 1914-present. (5) The area in Comparative History may focus on such themes as nineteenth-century emigration/immigration, eighteenth century American and European political and social philosophy, the history of the modern

family, or the frontier in global perspective. The fourth field may involve training in politics, international relations or literature, for example, to provide perspectives and methods that can illuminate historical problems. Or it can involve a subdiscipline in history that has a distinctive subject matter and methodology, such as American social, legal, ecological or intellectual history. Students entering the program without previous graduate training in American history are expected to take the Qualifying Examination no later than the end of their fifth semester of residence and must pass the examination by the end of the sixth semester.

Students who have earned an M.A. in history elsewhere, or who have one year of transfer credit for work taken elsewhere, are expected to take and pass the Qualifying Examination by the end of their second year in the program.

Unless the student elects a single three-hour oral examination on all four fields, the Qualifying Examinations will be taken separately in each of the fields, with the general American field coming at the end. For each of the fields (2), (3) and (4), as above, the student will choose one appropriate professor with the approval of the chair of the program. That professor, in consultation with the student, will define the requirements, course of preparation and mode of examination (written and/or oral) for the field.

For the general American field, the Chair will appoint two members of the Executive Committee as examiners. The student may choose a one-hour oral examination or a three-hour written examination followed, if the examiners so require, by an oral examination. In either case, the two professors in consultation with the student will define in advance the major themes or problems on which the examination will be based. So far as possible, fields (3) and (4), as above, should be selected with a view to broadening and deepening the student's understanding of his/her American history fields, and providing valuable background for the dissertation work.

With the consent of the Chair and the professor concerned, qualified students in appropriate cases may be examined in fields (3) or (4), as above, by a faculty member at another university. Moreover, with the consent of the Executive Committee, examinations in fields (3) or (4), as above, may be waived for students with the M.A., J.D., or other advanced degrees that represent a level or kind of training and achievement fully equivalent to those required in the Brandeis examinations for those fields.

A student may be admitted to candidacy for the Ph.D. degree upon satisfactory completion of the following: course and residence requirements, demonstration of a high level of proficiency in one foreign language, the qualifying examinations and when the prospectus for a dissertation is approved by the Executive Committee.

When the dissertation is accepted by the Committee, a final oral examination will be scheduled at which the candidate must successfully defend his or her dissertation before the Committee and other members of the faculty who may participate.

#### Admission to Candidacy.

#### Dissertation and Defense.

## Courses of Instruction

History 190a. <b>Methods of History</b>	A critical analysis of classical historiography. Usually offered every year. Mr. Fischer	207e. <b>Topics in Environmental History</b> Mr. Worster
History 196b. <b>Seminar in Comparative History: A Historical Look at Marginality</b>	Usually offered in even years. Mr. Binion	208e. <b>Topics in Modern American Cultural History</b> Mr. Whitfield
History 200a. <b>Colloquium in Early Modern Comparative History</b>	An introduction to the major issues and methods in the social history of Europe in the early modern and modern periods. Usually offered every year. Mr. Cohn	History 210a. <b>Colloquium in the History of American Civilization</b> Ms. Heyrman
History 200b. <b>Colloquium in European Comparative History Since the Eighteenth Century</b>	Comparative examination of major historical issues in Europe from the eighteenth through the twentieth centuries. Usually offered in even years. Mr. Schuker	History 210b. <b>Colloquium in the History of American Civilization</b> Staff
History 201e-208e. <b>Directed Research in American History</b>	Students will normally elect one of the following in the fall term of the first and the second years. Each is designed to provide experience in designing, researching and writing a substantial essay of a monographic character, based on extensive use of sources. This is the equivalent of a full course and extends the due date for the final draft of the paper to March 1, to permit sufficient time for a major project. Specific research topics are selected by the student in consultation with the professor. Offered every year.	History 301-307. <b>Readings in the History of American Civilization</b> 301a or b. Mr. Bernstein 302a or b. Mr. Fischer 303a or b. Ms. Heyrman 304a or b. Mr. Keller 305a or b. Mr. Worster 306a or b. Mr. Whitfield 307a or b. Mr. Kloppenberg
201e. <b>Topics in American Art and Architecture</b>	Mr. Bernstein	The following courses are offered on a regular basis to groups of students who wish to use them to prepare for their general examinations.
202e. <b>Topics in Social History with Emphasis on the Early Republic</b>	Mr. Fischer	History 312-318. <b>Readings in the History of American Civilization</b> Offered every year.
203e. <b>Topics in American Colonial History</b>	Ms. Heyrman	312a or b. <b>American Social History, 1750-1850</b> Mr. Fischer
204e. <b>Topics in Modern America</b>	Mr. Keller	313a or b. <b>Colonial History, 1607-1750</b> Ms. Heyrman
205e. <b>Topics in Modern Intellectual History</b>	Mr. Kloppenberg	314a or b. <b>Political History, 1870-present</b> Mr. Keller
		315a or b. <b>American Intellectual History, 1870-present</b> Mr. Kloppenberg
		317a or b. <b>Environment and History</b> Mr. Worster

318a or b. <b>American Cultural History</b>	Mr. Whitfield	History 151a. <b>The Early Republic</b>	Usually offered every four years. Mr. Fischer
History 401d-411d. <b>Dissertation Research</b>	Offered every year. 401d. Mr. Bernstein 402d. Mr. Fischer 403d. Ms. Heyman 404d. Mr. Keller 405d. Mr. Worster 406d. Mr. Whitfield	History 152b. <b>American Social and Cultural History Since the Civil War</b>	Usually offered every fourth year. Mr. Scobey
		History 156a. <b>American Social History, 1750-1860</b>	Usually offered in even years. Mr. Fischer
		History 158a. <b>Working Class History in the United States</b>	Usually offered in even years. Mr. Scobey
		History 159b. <b>American Social and Cultural History: New York City</b>	Usually offered every year. Mr. Scobey
American Studies 133a. <b>The American West</b>	Usually offered in even years. Mr. Worster	History 167b. <b>Topics in American Legal History</b>	Usually offered in odd years. Mr. Keller
American Studies 136b. <b>The Great Frontier</b>	Usually offered in odd years. Mr. Worster		

For courses available to History of American Civilization students in other historical areas, see the listings by department and programs in the Graduate School and College catalogs, especially under Comparative History.

In addition, the following courses may be taken as equivalent to History of American Civilization seminars.

American Studies      Usually offered in even years.  
133a.

**The American West**    Mr. Worster

American Studies      Usually offered in odd years.  
136b.

**The Great Frontier**    Mr. Worster

## International Economics and Finance

### Objectives

The Lemberg Program in International Economics and Finance offers an innovative graduate degree for students planning careers in international economics, business and finance. Drawing on the strengths of traditional management and international relations curricula, the Master of Arts program combines advanced technical studies in international economics and finance with broad preparation in the political and cultural aspects of international economic relations. One semester of study—usually the spring semester of the student's first year in the program—is spent at a foreign university affiliated with the program.

### Admission

The general requirements for admission to the Graduate School, given in an earlier section of this catalog, apply to candidates for admission to this area of study. An undergraduate concentration in economics is not required, but applicants are expected to have a background in economics and related analytical subjects. Undergraduate work should include some courses in intermediate microeconomics, statistics and international relations. Applicants should also have attained some proficiency in at least one major foreign language.

### Faculty

Associate Professor  
**Peter A. Petri**,  
 Director, Lemberg  
 Program; International  
 trade. Development.  
 Japan. Korea.

Visiting Professor  
**Robert Z. Aliber**:  
 International finance.  
 Multinational  
 corporations.

Professor  
**Anne P. Carter**:  
 Technology progress.  
 Technology transfer.

Professor  
**F. Treverry**  
**Dolbear, Jr.**:  
 Macroeconomics.  
 Theory and computer  
 simulations.

Professor  
**Robert Evans, Jr.**:  
 Japan. Labor.  
 Economic history.

Professor  
**Barney K. Schwalberg**:  
 Soviet economy.  
 Labor. Education.

Professor  
**Richard S. Weekstein**:  
 Development. Law  
 and economics.  
 Trade.

Assistant Professor  
**Stefan Gerlach**:  
 International finance.  
 Macroeconomics.

Assistant Professor  
**Gary Jefferson**:  
 China. Technical  
 progress. Open  
 economy  
 macroeconomics.

Assistant Professor  
**Arthur Lewbel**:  
 Econometrics.  
 Demand theory.  
 Aggregation.

Assistant Professor  
**Jeffrey Williams**:  
 Financial and  
 commodity markets.

### Degree Requirements

#### Master of Arts

Students must successfully complete an approved schedule of at least 12 courses during their residency at Brandeis. These will include four required courses, five electives (two of which must be selected from a "core option" group), and a final-year seminar. Students must also successfully complete an approved schedule of courses during one semester of study at an affiliated foreign university.

#### Residence Requirement.

Two years of full-time study at the normal course rate will be required. One semester of study, usually the spring term of the student's first year in the program, will be spent at a foreign university associated with the program.

#### Language Requirement.

Candidates will be required to demonstrate a high level of proficiency in a modern foreign language.

#### Internship.

Students will have the opportunity to serve as interns with a business or governmental agency in the summer following their spring term abroad.

#### Thesis.

A master's project involving a one-semester thesis, or a report on an appropriate internship must be submitted no later than April 15 of the year in which the degree is to be conferred.

## Courses of Instruction

<b>IEF 111a. International Corporate Finance</b>	Analysis of the exposure of the multinational firm from accounting and economic perspectives, survey of techniques in foreign trade and investment finance, working capital management and other international operations. Introduction to international business strategy, including tax management, political risk and global capital budgeting. Prerequisite: Concurrent enrollment in ECON 163a or IEF 201a.	<b>Economics 136b. Methods for Managerial Economics</b>	The application of mathematical techniques used in microeconomics and operations analysis to managerial problems. Topics include linear programming and related optimization techniques, game theory, decision theory, search theory and capital budgeting.
	Usually offered every year.		Usually offered every year.
	Staff		Mr. Lewbel
<b>IEF 115a. International Financial Markets</b>	Institutions and instruments of international capital markets from the viewpoint of market participants. Analysis of spot, forward and options markets for foreign exchange, parity rules and arbitrage. Survey of Eurocurrency markets and international bond markets, and the techniques used by firms to control exposure. Signature of instructor required.	<b>Economics 141a. The Economics of Technological Change</b>	This course is designed to give students of economics a deeper understanding of the role of technological change in modern economic analysis and to help them to identify and analyze important issues concerning technology in the nation's economy. Topics include the representation of technological change in various production functions, studies of change at the sectoral level, interdependence of sectoral decisions, factor productivity and economic growth, technology transfer and technology assessment.
	Usually offered every year.		Usually offered in odd years.
	Mr. Williams		Ms. Carter
<b>IEF 130a. Special Topics in International Economic Policy</b>	Analysis of current international economic policies using advanced theoretical models. Topics will vary but may include the international debt crisis, the role of the IMF, the appreciation of the US dollar and the trade deficit.	<b>Economics 160a. International Trade Theory</b>	Rigorous analysis of the causes and effects of international trade, including theories of static and dynamic comparative advantage. Justifications for and effects of commercial policy. Analysis of international trade and trade policy under imperfect competition.
	Usually offered every year.		Usually offered in even years.
	Staff		Mr. Petri
<b>IEF 134b. Public Finance</b>	The theory of government and collective activity; the effects of taxation on efficiency and equity; problems of cost and choice in government expenditures. Special attention to Reagan budget changes and the proposals to require a balanced budget.	<b>Economics 161a. Multinational Corporations</b>	The economic theory of direct foreign investment is developed and applied in the analysis of the multinational corporation. The problems raised by these compromises are examined and various solutions considered. The policies of both home countries and host countries are analyzed and evaluated.
	Usually offered in odd years.		Usually offered every year.
	Mr. Williams		Mr. Kindelberger
<b>Economics 135a. Industrial Organization</b>	Economic analysis of American industry in terms of market structure, conduct and performance. Topics included are business organization, concentration, barriers to entry, price and product policies, profits, efficiency and progressiveness.	<b>Economics 162b. International Financial History</b>	The history of the development of money, bonds and other financial institutions of Western Europe from the industrial revolution to the present.
	Usually offered in odd years.		Usually offered every year.
	Staff		Mr. Kindelberger

<b>Economics 163b. Advanced International Macroeconomics</b>	Extensions of the open economic macroeconomics concentrating on recent developments in the empirical and theoretical literature, including simulation models, optimal portfolio analysis and current account and debt analysis in a dynamic optimizing framework.	<b>Economics 182a. Advanced Macroeconomics</b>	Selected topics in macroeconomic analysis are treated in depth. Topics vary, but may include: the role of expectations, positive analysis of stabilization policy, inflation and unemployment, and micro foundations of macroeconomic models.
	Usually offered in even years.		
	Mr. Aliber		
<b>Economics 165a. Growth and Technical Change: The Chinese Experience</b>	A study of the processes of growth, technical change and economic transformation, with a focus on the empirical experience of China. Analysis of the policy options available to China and the economic consequences of various experiments and reforms.	<b>IEF 201a. International Macroeconomics I</b>	Analysis of national accounts and economic fluctuations, equilibrium in goods and money markets, aggregate supply and demand, and the role of trade and international capital movements. Open-economy concepts are stressed, and international comparisons are used to highlight the microeconomic determinants of macroeconomic institutions and policy.
	Usually offered in odd years.		
	Mr. Jefferson		
<b>Economics 171a. Financial Theory</b>	Topics include the evaluation and selection of assets, the behavior of investors under risk, portfolio composition and theories of the pricing of assets. Examines applications of the Capital Assets Pricing Model and the Arbitrage Pricing Model to the pricing of specific financial assets including options and forward exchange.	<b>IEF 202a. International Macroeconomics II</b>	Systematic treatment of open-economy macroeconomics for both small and large economies. Analysis of international flows of goods and capital, international financial arrangements, and policy interdependence under fixed and flexible exchange rates. Review of the performance of different postwar financial regimes and of empirical results in exchange rate determination and forecasting.
	Usually offered in even years.		
	Mr. Williams		
<b>Economics 172b. Money and Banking</b>	The industrial structure of the money market and the effect of structure upon the effectiveness of monetary policy. Financial intermediaries will be described and analyzed in general; primary emphasis will be on the way particular intermediaries, markets and financial instruments work and their effectiveness as transmitters of monetary policy. Topics to be studied include commercial banking, the mortgage market, the new financial instruments—NOW accounts, money market funds, branch banking and Eurodollars.	<b>IEF 212a. Case Studies in International Finance</b>	Case studies in the practice of international corporate finance in the areas of international exposure, corporate capital transactions, portfolio management, international banking and investment banking.
	Usually offered every year.		
	Staff		
		<b>IEF 220b. Case Studies in International Business Strategy</b>	Case studies in the “real” aspects of international management, including analysis of long-term economic exposure, direct investment, importing, exporting and the formulation of international business strategy.

## Joint Program of Literary Studies

Comparative Literature, French, German, Russian and Spanish

### Objectives

The joint program of literary studies accepts students desirous of obtaining an M.A. and/or Ph.D. degree in one of the areas listed above. Interdisciplinary in design, the program aims to train literary scholars and teachers whose professional capabilities will be broader than their individual specialties. Students will have the opportunity to study the theory of literature, history and theory of literary criticism, and scholarly methodology in addition to the specific literatures in which the degree will be earned. A small and carefully selected student body will work closely with the faculty of the program and with one another in a core curriculum before specializing. Students are encouraged to plan an individual program of studies within their field of interest in consultation with their adviser(s). Although the program encourages individual initiative, with the advice and consent of advisor(s), it should be stressed that all students, whatever their areas, must master the basic literature, primary and secondary, in their field. The General Examinations will assume both breadth and depth of such knowledge. (Reading lists for each area are available.)

### Admission

The general requirements for admission to the Graduate School, given in an earlier section of this catalog, apply to candidates for admission to this program. Applications must be received no later than March 1. Please be sure to mark clearly the **area** of your choice (Comparative Literature, French, German, Russian or Spanish) on the application form. Each applicant must submit one or more college-level essays on a literary subject (one of which should be written in English) as a sample of work.

### Faculty

#### Committee:

Professor  
**Edward Engelberg**,  
Chair (Comparative  
Literature)

Professor  
**Luis E. Yglesias**  
(Spanish)

Professor  
**Murray Sachs**  
(French)

Professor  
**Harry Zohn**  
(German)

Professor  
**Robert Szulkin**  
(Russian)

In addition, all faculty members of the Departments of Germanic and Slavic Languages and Romance and Comparative Literature participate in this program.

### Degree Requirements

#### Master of Arts

Students who have completed two years of full-time study in residence may be awarded the the M.A. degree. Such students must be in good standing (no incompletes). In addition, such students must have passed the language requirement, either by certification and/or examination, as follows: single area candidates **one foreign language other** than the major language. Finally, such students must have passed satisfactorily the Qualifying Examinations.

#### Doctor of Philosophy

##### Program of Study.

Individual programs of study will be arranged between students and their advisors. The core curriculum consists of several elements: all students in the program are obligated to enroll in Literary Studies 201 (The History and Theory of Criticism); all students will be held responsible for certain works on literary theory, literary history and aesthetics (not studied in the criticism seminars) at the time of General Examination.

Although the program is designed to permit students to develop their studies coincident with their interests and talents, and in consultation with their advisor(s), full-time students are expected to enroll in at least **three** literary studies seminars each year during the first two years of residence. In addition to Literary Studies 201, first-year students are expected to augment this schedule with at least two additional seminars from the literary studies offering.

Residence Requirement.	The minimum residence requirement is two years of full-time study beyond the bachelor's degree. Additional course work during the third year is generally recommended.	Dissertation and Defense.	The completed dissertation must be read and found acceptable by its director and two other readers before the candidate is eligible for the Final Oral Examination. The Final Oral Examination will be conducted by a committee of not less than four, one of whom must come from outside the candidate's area.
Language Requirement.	Students will be asked to demonstrate a reading competence in <b>at least</b> two foreign languages to be determined in consultation with their advisors. In certain areas of specialization, additional languages (e.g., Latin) may become necessary research tools. (Comparative literature students should consult the special statement of language requirements below.) Students must be certified in at least one language by the end of the first year in residence.	Teaching.	All students in the program are expected to do some supervised teaching, either as a teaching assistant or by means of other arrangements. In some areas, where teaching assistantships may at times be unavailable, students will be expected to fulfill some teaching opportunities (occasional class lectures, for example) without remuneration.
Qualifying Examinations.	Qualifying examinations must be taken at the start of a student's second full year in residence, with the purpose of determining that the student is qualified to study literature productively at the graduate level. Only students who have a complete and satisfactory record for their first year will be permitted to take the Qualifying Examinations. <b>No postponement of these examinations is allowed.</b> The examinations are both written and oral, and will be scheduled each year for the third or fourth week in September. The examinations are prepared and conducted by a three-member faculty committee chosen at the end of the first year of study by the candidate in consultation with the candidate's faculty advisor. At the outcome of the examination, the candidate receives a detailed written evaluation from the three-member committee, based on the written and oral performances and on the entire record of the candidate's first year in residence.	For Candidates in Comparative Literature.	<p>1. Any student in the program who declares candidacy in comparative literature should decide, as soon as possible, on a <b>major</b> and <b>minor</b> literature. The <b>major</b> literature must be one of those offered by either the Department of Germanic and Slavic Languages or Romance and Comparative Literature (but not Italian). The <b>minor</b> literature may be Italian, English, American or any other literature offered by the University. Exact "proportions" cannot be stated in advance and will be worked out in consultation between students and advisor(s).</p> <p>2. Candidates in comparative literature are expected to take three language examinations as follows:</p> <ul style="list-style-type: none"> <li>a. The major language, which should be near level of mastery (reading, writing and speaking) on acceptance to the program. Students may simply be "certified" for this language if their level of competence is obvious.</li> <li>b. The second foreign language should be mastered as a reading language with a fluency that will permit easy access to all primary and secondary literature in the specified area.</li> <li>c. The third foreign language should be a reading tool for primary and especially secondary materials.</li> </ul> <p>It is quite possible that for certain areas of specialization — Medieval, Renaissance, etc. — additional languages will become necessary (e.g., Latin, Catalan, Old French).</p>
General Examinations.	Students may take the General Examinations, which demonstrate full competency in their chosen discipline, whenever they and their advisors feel they can appropriately do so. However, all students are expected to have completed the General Examinations no later than the fall semester of their fourth year in residence. Examinations will be offered twice each academic year, in October and May, and will consist of three written examinations and an oral examination. Details about the contents and procedures are available on request.		
Admission to Candidacy.	Candidates will be recommended for admission to doctoral candidacy when the residence and language requirements have been met, the General Examinations have been successfully passed, and a prospectus of the candidate's proposed dissertation topic has been approved by a committee of the area concerned.		

## Courses of Instruction

Literary Studies 201a.	Usually offered every year.	Literary Studies 213b.	Usually offered every fourth year.
<b>History and Theory of Criticism: The Development of Modern Critical Theories</b>	Mr. Gendzier	<b>Modes of the Grotesque in Art and Literature</b>	Staff
Literary Studies 202b.	Usually offered in even years.	Literary Studies 214a.	Usually offered every fourth year.
<b>Fiction: Theory and Practice</b>	Mr. Sachs	<b>Biography- Autobiography and Related Genres</b>	Staff
Literary Studies 203a.	Usually offered every fourth year.	Literary Studies 215a.	Usually offered every fourth year.
<b>Romantic Phenomena</b>	Staff	<b>Poetry, Criticism and Modernity: Baudelaire and His Contemporaries</b>	Mr. Cohen
Literary Studies 204a.	Usually offered in even years.	Literary Studies 301-305a and b. <b>Readings in Area Studies: Tutorials</b>	Usually offered every year.
<b>Theory and Practice of Literary Translation</b>	Mr. Zohn	301a and b. <b>Comparative Literature, Readings in Comparative Texts</b>	Mr. Engelberg and Staff
Literary Studies 205a.	Usually offered every fourth year.	302a and b. <b>French, Readings in French Texts</b>	Mr. Sachs and Staff
<b>Crosscurrents in the French and English Enlightenments</b>	Staff	303a and b. <b>German, Readings in German Texts</b>	Mr. Zohn and Staff
Literary Studies 206b.	Usually offered every fourth year.	304a and b. <b>Russian, Readings in Russian Texts</b>	Mr. Szulkin and Staff
<b>The Comic in Literature: Theory and Practice</b>	Staff	305a and b. <b>Spanish, Readings in Spanish Texts</b>	Staff
Literary Studies 207a.	Usually offered every fourth year.	Literary Studies 351-355a and b. <b>Directed Research</b>	Open to advanced graduate students with the consent of the instructor and the chairman of the Literary Studies Program.
<b>Marxist Criticism: Literature and Society in Early Modern Europe</b>	Staff	351a and b. <b>Comparative Literature</b>	Offered every year.
Literary Studies 208b.	Usually offered every fourth year.	352a and b. <b>French</b>	Mr. Engelberg and Staff
<b>Cervantes in his European Context: Heritage and Lineage</b>	Staff	353a and b. <b>German</b>	Mr. Zohn and Staff
Literary Studies 209a.	Usually offered in odd years.	354a and b. <b>Russian</b>	Mr. Szulkin and Staff
<b>Modern Phenomena: European Symbolism</b>	Mr. Engelberg	355a and b. <b>Spanish</b>	Staff
Literary Studies 210b.	Usually offered every third year.	Literary Studies 400d. <b>Dissertation Research</b>	Offered every year.
<b>Genesis and Development of a Myth: Don Juan</b>	Staff	Staff	Staff
Literary Studies 211a.	Usually offered every fourth year.		
<b>The Tragedy in Literature</b>	Staff		
Literary Studies 212b.	Usually offered every fourth year.		
<b>Techniques of Stylistic Analysis</b>	Staff		

Following is a list of selected courses in each of the areas that constitute the Joint Program of Literary Studies, which may be of special interest to graduate students. For a full list of all courses available consult the undergraduate catalog under Departments of Germanic-Slavic Languages and Romance and Comparative Literature.

### Comparative Literature

#### Comparative Literature 102a.

#### **Mythology in Medieval Literature**

This course examines the tensions between pagan literature and Christian theology in the early and high Middle Ages and their resolution through moralized versions of classical myth. Readings in St. Augustine, *The Song of Roland*, Chrétien de Troyes, the *Romance of the Rose*, Dante, Petrarch, *Sir Gawain and the Green Knight* and Chaucer.

Usually offered in even years.

Ms. Perry-Buxton

#### Comparative Literature 103b.

#### **Madness and Folly in Renaissance Literature**

A study of the theme of madness and folly as exemplified by the major writers of the Renaissance, including Erasmus, Rabelais, Montaigne, Boccaccio, Ariosto, Shakespeare, Jonson and Cervantes.

Usually offered in odd years.

Mr. Lansing

#### Comparative Literature 104a.

#### **At the Threshold of the Modern World**

The challenge to social constraints and the emergence of a new world-view in the West. How early modern literature treated issues of the self, social and sexual relations, women, religion and the philosophical spirit. Readings in Molière, Pascal, Descartes, Aphra Behn, Jonson, Fontenelle, Mme. de Lafayette, Defoe.

Usually offered in even years.

Ms. Harth

#### Comparative Literature 105b.

#### **Sex and Sensibility in Pre-Revolutionary European Novels**

This course will study the concept of human nature with specific attention to whether people can be educated to control or influence their erotic feelings and states of happiness. We shall trace the roles of family, money, personal identity and social norms in structuring the eighteenth-century novel. The course will focus on the birth of the novel and of romanticism. Required texts: Richardson, Clarissa; Fielding, Tom Jones; Sterne, Tristam Shandy; Diderot, The Nun, Rameau's Nephew; Rousseau, Julie or the New Heloise; Goethe, Werther; Laclos, Dangerous Liaisons; Sade, Justine.

Usually offered in even years.

Mr. Gendzier

#### Comparative Literature 106a.

#### **The Age of Contraries: European Romanticism**

A study of the Romantic rebellion and its remarkable combination of spiritual vision and social utopianism, against the background of the French Revolution. Literary masterpieces from Germany, England and France that explore problems of faith, passion, art, will be compared with relevant paintings and music. Authors include: Blake, Wordsworth, Goethe, Hoffman, Chateaubriand, Balzac, Stendhal, Baudelaire. Music: Berlioz, Wagner. Painting: Delacroix, Turner, Friedrich.

Usually offered in odd years.

Mr. Kaplan

#### Comparative Literature 107b.

#### **European Modernism and Its Inheritors**

A study of the principal forms and styles of the European avant-garde in the first half of this century, understood as a series of efforts to reflect and explore the implications of an emerging and radically new model of human consciousness. Painters viewed will include Picasso, Duchamp and Ernst; readings from Joyce, Rimbaud, Rilke, Apollinaire, Landolfi, Stein, Montale and William Carlos Williams.

Usually offered in odd years.

Mr. Yglesias

#### Comparative Literature 110b.

#### **The Development of a Genre: Drama**

Survey of Western theater from Classical times to the twentieth century. Major trends in tragedy and comedy pursued and several themes followed in versions from earliest to modern interpretation. Literary aspects stressed with some attention to factors influencing presentation. Works include: Hippolytus, The Brothers, Everyman, Sheepwell, The Misanthrope, Phedre, The Tempest, Maid of Orleans, Wild Duck, Government Inspector, St. Joan, Yerma.

Usually offered in odd years.

Staff

#### Comparative Literature 121b.

#### **Dancing the Orange: Studies in Poetic Resonance**

Usually offered every fourth year.

Mr. Yglesias

#### Comparative Literature 127b.

#### **The Rise of the Modern Short Story**

A study of the emergence and development of the modern short story as a new literary genre in the nineteenth century, with some attention to defining those characteristics of the genre which most clearly differentiate it from the novel. Works by such exemplary writers as Mérimée, Gogol, Poe, Maupassant, Verga, Anatole France and Chekhov will be examined.

Usually offered in even years.

Mr. Sachs

<b>Comparative Literature 137a. Dada and Surrealism</b>	<p>The Dadaists first assaulted bourgeois society in Zurich before World War I. Their provocative and humorous diatribes were employed by Dada-Surrealists in Berlin, New York and Paris. We shall examine their manifestos, literature, art and films which display a rebellious spirit extolling the liberated subconscious, the values of spontaneity and authenticity, the joys of love and freedom.</p>	<b>Comparative Literature 185a. Dickens and Dostoevsky</b>	<p>This course will consider such issues as narrative technique, literary realism and the manipulation of the grotesque and the sublime in representative works of Dickens and Dostoevsky. Because Dostoevsky was an avid reader of Dickens, we shall address the question of literary influence, particularly with regard to their shared thematic interests: e.g., the rise of the modern city and the depiction of childhood.</p>
	<p>Usually offered in odd years.</p>		<p>Usually offered every fourth year.</p>
	<p>Mr. Gendzier</p>		<p>Staff</p>
<b>Comparative Literature 144b. The Outsider as Artist and Lover</b>	<p>Autobiographical, philosophical and literary writings of Kierkegaard, Baudelaire and Kafka who exemplify the struggle to achieve meaning in an antagonistic age. All were "alienated" writers who believed that their dedication to art or God required them to renounce love and marriage. We shall explore the interrelation of creativity, religious experience and human intimacy in their writings, using Martin Buber to define these problems in today's terms.</p>	<b>English 187a. The Modern Novel</b>	<p>Usually offered every year.</p>
	<p>Usually offered in even years.</p>		<p>Mr. Onorato</p>
	<p>Mr. Kaplan</p>		
<b>Comparative Literature 150a. The European Novel I: Realism</b>	<p>A study of major European novels of the eighteenth and nineteenth centuries which were especially influential in shaping a new tradition in the art of fiction: the novel of realism. The development and evolution of the novel of realism will be traced through the close reading of novels by such authors as: Laclos, Jane Austen, Balzac, Dickens, Flaubert, Galdos, Tolstoy, Zola, Fontane.</p>	<b>Comparative Literature 199b. The Roots of Literature</b>	<p>An inquiry into the origins of literature as revealed by ancient and modern myths and texts.</p>
	<p>Usually offered in even years.</p>		<p>Usually offered every fourth year.</p>
	<p>Mr. Sachs</p>		<p>Mr. Iglesias</p>
<b>English 137a. Yeats, Rilke, Freud</b>	<p>Usually offered in odd years.</p>	<b>French</b>	
	<p>Mr. Grossman</p>		
<b>Comparative Literature 170b. Tragedy and Modernism: Buchner to Beckett</b>	<p>Usually offered in odd years.</p>	<b>French 109b. Contemporary French Civilization</b>	<p>This course is designed for those who seek to acquire a working knowledge of the social, cultural, economic and political context of contemporary France, while seeking, at the same time, to develop fluency in French. It is also of interest to students contemplating study abroad, as well as careers in international business, government and law. The course centers around thematic dossiers composed of recent essays and press articles, slides, films and recordings.</p>
	<p>Mr. Engelberg</p>		<p>Usually offered every year.</p>
	<p>Mr. Marx-Scouras</p>		
<b>Comparative Literature 174a. Sex, Class and Literature in Europe</b>	<p>Interconnections of sex, gender and class in the revolutionary, social, political and industrial climate of nineteenth-century Europe. An examination of how social and sexual power relations enacted in love, marriage and work were ideologically constructed in the fictional and theoretical literature of the period. Writers to be studied include Charlotte Brontë, Elizabeth Caskell, Flaubert, Mill, Engels, Gissing, Freud, Gorky.</p>	<b>French 110a. Introduction to French Literature</b>	<p>A survey of representative works on the theme of love by the following authors: Beroul, Thomas, Montaigne, Molière, Racine, Diderot, Baudelaire, Flaubert and Camus. This course is designed to prepare students to read and interpret a variety of literary genres. Readings, lectures, discussions and writing will be in French.</p>
	<p>Usually offered in odd years.</p>		<p>Usually offered every year.</p>
	<p>Ms. Harth</p>		<p>Mr. Gendzier</p>

French 112a. <b>The French Middle Ages</b>	This course will explore medieval authors' use of a variety of literary genres to represent and comment upon the society in which they lived, in particular the relationships between men and women, between individuals and the feudal structure, between individual conscience and the strictures of the Catholic church, between the author and his work. Texts will be read in modern French: <i>Chrétien de Troyes' Yvain</i> , the <i>Lais of Marie de France</i> , <i>Le roman de Tristand et Iseut</i> , <i>Le Roman de la rose</i> , <i>Aucassin et Nicolette</i> , the poetry of Rutebeuf, of Villon, of Christine de Pizan and of Charles d'Orléans, a selection of fabliaux, <i>La Farce de Maistre Pathelin</i> .	French 138b. <b>Nineteenth Century French Fiction</b>	By focusing on the great landmark achievements in the novel, (by Stendahl, Balzac, Flaubert and Zola), and the finest short stories (by Mérimée, Balzac, Flaubert and Maupassant), this course will seek to discover why fiction grew to be the dominant literary form of the nineteenth century in France and why realism was the aesthetic ideal of the age. All readings in French. Conducted in French.
	Usually offered in odd years.		Usually offered in odd years.
	Ms. Perry-Buxton	Mr. Kaplan	
French 116b. <b>The French Renaissance</b>	An exploration of the themes of alienation and exile in relation to the role of classical texts, women writers and protestantism in the development of French Renaissance literature. Readings will include works by Marot, Scève, Du Guillet, Labé, Marguerite de Navarre, Rabelais, Du Bellay, Ronsard, Montaigne, D'Aubigné.	French 140b. <b>Twentieth-Century French Drama</b>	Usually offered in even years.
	Usually offered in even years.	Staff	
	Ms. Perry-Buxton		
French 117a. <b>French Classicism</b>	This course will explore the relationship of literature to power. The writers we study were controlled directly or indirectly by Louis XIV, who managed France's culture to suit his political purposes. We will look at the unity of this culture—the integration of literature into the other arts—in the service of power. Representative authors: Corneille, Racine, Molière, Pascal, Boileau, La Fontaine, La Rochefoucauld, La Bruyère.	French 142b. <b>French Writing Outside of France</b>	This course will explore how an extraordinarily rich, new world literature, based on the notion of difference and resulting from the intermixing of cultures, has emerged from the confines of the French language. We shall read literary masterpieces from such geographically diverse places as North America, the Caribbean, Africa, the Maghreb and Southeast Asia. Readings will be supplemented by films.
	Usually offered every third year.		Usually offered in odd years.
	Ms. Marx-Scouras		
French 118b. <b>The French Enlightenment</b>	The origins of Romanticism and Realism; modern notions of tolerance, the pursuit of happiness, feminism; conflicts between primitivism and progress, rationalism and experience, secular humanism and religious morality. These themes will be analyzed in such writers as Cyrano de Bergerac, Fontenelle, Bayle, Montesquieu, Voltaire, Diderot, Rousseau and Sade.	French 144a. <b>Power and Culture in the Ancien Régime</b>	Usually offered in odd years.
	Usually offered in even years.	Ms. Harth	
	Mr. Gendzier		
French 119a. <b>French Romanticism</b>	The Romantic Revolution dominated France during the first half of the nineteenth century. We shall study Victor Hugo's central contributions and principal works of fiction; poetry and drama by Balzac, Lamartine, Vigny, Musset. Selections from Baudelaire will exemplify the breakdown of French Romanticism.	French 149a. <b>Twentieth Century French Fiction</b>	A study of the theory and practice of French novelists in the twentieth century. Authors to be considered include: Gide, Mauriac, Sartre, Beckett, Robbe-Grillet, Tournier, Duras. Particular attention will be paid to the notion of authorial presence in the novel.
	Usually offered in even years.		Usually offered in even years.
	Mr. Kaplan	Ms. Hale	
French 150b. <b>Modern French Poetry</b>	From Romanticism to Symbolism, the foundations of modern French poetry. Close reading of Baudelaire's <i>Les Fleurs du Mal</i> and selected verse of Rimbaud, Verlaine, Mallarmé and Valery. The themes of good and evil, the role of art, conceptions of language, and the changing mission of the poet will be emphasized.		
	Usually offered in even years.		
	Mr. Kaplan		
French 155a. <b>Literature and Ideology</b>	This course will analyze the impact of contemporary ideologies of race, sex and class on twentieth century French intellectual thought and writing. Authors include Céline, Sartre, Camus, Fanon, Robbe-Grillet, Duras, Foucault, Todorov, Kristeva and Lacan.		Usually offered in even years.
	Usually offered in even years.	Ms. Marx-Scouras	
	Mr. Kaplan		

<b>French 160b. French Literature and Painting</b>	<p>We shall explore the interrelations between French art and literature by studying selected texts (in English translation) and corresponding visual images from the nineteenth and twentieth centuries. Examples of movements that will be studied are: Romanticism, Realism, Symbolism, Surrealism, the New Novel/Abstract Art.</p> <p>Usually offered in even years.</p>	<b>French 185a. Symbolism and Myth in Nineteenth- Century France</b>	<p>Nineteenth-century French writers explored the dimension beyond the visible world in <b>symbol and myth</b>. Baudelaire's poetry and art criticism, and its influences, will help trace the Romantic beginnings of symbolism through decadence, naturalism and realism. The duality between the material and supernatural worlds as expressed in poetry, the novel, opera and painting provides the course's rationale. Authors include Nerval, Baudelaire, Verlaine, Rimbaud, Mallarmé; Wagner's opera <b>Tannhäuser</b>; paintings by Delacroix, Ingres, Daumier, Moreau.</p>
<b>French 165a. Twentieth-Century French Literature and Film</b>	<p>We will study the stylistic, thematic, and narrative relationships between selected contemporary French literary texts (in English translation) and their cinematic counterparts, made either by the same author or by independent film makers. Our aim is to achieve a greater understanding of the strengths, weaknesses, and limitations of both media. Among the artists to be considered are: Cocteau, Prévert, Louys, Bunuel, Robbe-Grillet, Beckett, Duras.</p> <p>Usually offered in even years.</p>		<p>Usually offered in odd years.</p>
	<p>Ms. Hale</p>		<p>Mr. Kaplan</p>
<b>French 166b. Sixteenth Century Paris</b>	<p>This course will explore the origins of Paris' reputation as the cultural center of France by means of a study of the history, art, architecture and literature of this city of contrasts. The chaotic community of Renaissance Paris can be seen as the matrix of modern France. Texts to be read in English translation include works by Marguerite of Navarre, Rabelais, Ronsard, du Bellay, Montaigne and Balzac.</p>	<b>German</b>	<p>Lectures and readings in German. Though the emphasis will be on Minnesang, the Middle High German epics, and Baroque literature, there will be some attention to the Gothic and Old High German periods as well as to the literature of the Reformation.</p>
	<p>Usually offered in odd years.</p>		<p>Usually offered every third year.</p>
	<p>Ms. Hale</p>		<p>Ms. Frisch</p>
<b>French 170b. French Culture from the Renaissance to the Romantic Period</b>	<p>In this course, we shall illuminate the relationship between the moralist tradition in France, (Montaigne, La Rochefoucauld, Diderot, Balzac) and the daily lives of their times. We shall locate the writers in their periods, place them geographically, outline their cultural and social frameworks, try to understand their collective mentality, their views of life and death, passion and reason, pleasure and pain.</p>	<b>German 106a. Advanced Composition and Style</b>	<p>Exercises and essays, ranging from simple letters, stories and dialogues to more complex analyses and argumentations, will improve personal writing style. Stylistic sensitivity and analytical abilities will be enhanced through the careful study of contemporary short stories, films, advertisements and, of course, samples from the great masters: Lessing, Heine, Nietzsche, Mann, Kafka, Grass. Conducted in German.</p>
	<p>Usually offered in even years.</p>		<p>Usually offered in even years.</p>
	<p>Ms. Perry-Buxton</p>		<p>Mr. Frey</p>
<b>French 178a. Fact and Fiction in France: The Uses of the Past</b>	<p>Usually offered in odd years.</p>	<b>German 110a. Introduction to the Life and Works of Goethe</b>	<p>Intensive study of many of Goethe's dramatic, lyric and prose works, including <b>Gotz, Werther, Faust I</b> and a comprehensive selection of poetry; lectures and readings in German.</p>
	<p>Usually offered in even years.</p>		<p>Usually offered every third year.</p>
	<p>Mr. Cendzier</p>		<p>Mr. Zohn</p>
		<b>German 120a. Enlightenment, Storm and Stress, Idealism: Lessing, Lenz and Schiller</b>	<p>A survey of the literary and intellectual movements—Enlightenment, Storm and Stress, Idealism—that eventually culminated in German Classicism. Emphasis will be on close analysis of representative works by Lessing, Lenz and Schiller. Lectures and readings in German.</p>
			<p>Usually offered every third year.</p>
			<p>Mr. Frey</p>

<b>German 130b. German Romanticism</b>	<p>The course studies literary and theoretical works of the Romantic movement and examines concurrent attitudes toward the German past, religion, philosophy, art, music and science. Lectures and readings in German.</p> <p>Usually offered every third year.</p> <p>Staff</p>	<b>German 180a. Twentieth-Century Prose: Mann, Kafka, Hesse</b>	<p>A survey of the work of these three important authors in the context of early twentieth-century literary movements. Special emphasis will be given to close analysis and discussion of selected texts. Lectures and readings in German.</p> <p>Usually offered every third year.</p> <p>Mr. Zohn</p>
<b>German 140a. German Literature in the Nineteenth Century</b>	<p>A study of German, Austrian and Swiss prose, poetry and drama from Heine to Hauptmann, including the major figures of "Young Germany," Poetic Realism and Realism (Buchner, Drosté-Hulshoff, Morike, Grillparzer, Gotthelf, Hebbel, Stifter, Nestroy, Keller, Raabe, Fontane, etc.). Lectures and readings in German.</p> <p>Usually offered every third year.</p> <p>Mr. Zohn</p>	<b>German 190b. Vienna at the Turn of the Century</b>	<p>The literary and cultural scene in imperial Vienna during the final decades of Franz Joseph's reign will be explored through the works of such writers as Schnitzler von Hofmannsthal, Zweig, Altenberg, Herzi and Kraus. Attention will be paid to the relationship between men of letters and innovative thinkers, artists and musicians like Freud, Wittgenstein, Klimt, Loos, Schiele, Mahler and Schoenberg.</p> <p>Usually offered every third year.</p> <p>Mr. Zohn</p>
<b>German 150a. The Jewish Contribution to German Literature</b>	<p>This course will examine the literary harvest of the German-Jewish symbiosis from the Minnesinger Susskind von Trimberg to Nelly Sachs, the poetess of the Holocaust, concerning itself with those Jewish writers in or from Germany (Heine, Wasserman, Laker-Schuler), Austria (Beer-Hoffmann, Schnitzler, S. Zweig) and Czechoslovakia (Kafka, Brod, Werfel) whose writings reflect Jewish themes or were shaped by the creative tension between the writers' Jewishness and the culture of German-speaking countries.</p> <p>Lectures and readings in English. Students with advanced preparation will be expected to do the reading in German.</p> <p>Usually offered every third year.</p> <p>Mr. Zohn</p>	<b>German 195b. The Culture of the Weimar Republic</b>	<p>The focal point will be Berlin in the troubled but fecund decade-and-a-half between the end of World War I and the accession of the Hitler regime. The course will explore aspects of the culture of the time, including literature and music (serious and popular), art and architecture (Grosz and Gropius), the Neue Sachlichkeit (new sobriety) in its various manifestations, the theater of Max Reinhardt and Erwin Piscator, the musical theater of Brecht and Weill, the satire of Kurt Tucholsky and Erich Kastner, and the fable cabarets of Berlin.</p> <p>Usually offered every third year.</p> <p>Mr. Zohn</p>
<b>German 160b. German Drama and Lyric Poetry from Naturalism to the Second World War</b>	<p>A survey of major trends in these genres with an emphasis on close analysis of selected works by such writers as Hauptmann, Hofmannsthal, Schnitzler, Kaiser, Brecht, Rilke and George.</p> <p>Usually offered every third year.</p> <p>Mr. Frey</p>	<b>Italian</b>	
<b>German 170b. Starting from Zero: German Literature Since World War II</b>	<p>We will trace the efforts of a new generation of German writers in both West and East Germany to come to terms with the horrors of war and totalitarianism and with the materialism of the post-war "economic miracle." Literary investigations will focus on major writers and poets such as Grass, Johnson, Lenz, Wolf, Böll, Celan, Sachs, Bachmann, Durrenmatt, Frisch, Weiss and Handke. Class discussions will be in English. Reading available in German and in English translation. Viewing of recent German films will supplement material.</p> <p>Usually offered every third year.</p> <p>Mr. Frey</p>	<b>Italian 105a. Contemporary Italian Culture</b>	<p>Usually offered in even years.</p> <p>Ms. Marx-Scouras</p>
		<b>Italian 110a. Introduction to Italian Literature</b>	<p>This course will be a survey of the masterpieces of Italian literature from Dante to the present. It is designed to introduce the student to the major literary periods, styles, genres, and to present an overview of the history of the literature. All reading, writing, lectures and discussion will be in Italian.</p> <p>Reading in Dante, Boccaccio, Petrarcha, Machiavelli, Leopardi, Verga and Pirandello.</p> <p>Usually offered in even years.</p> <p>Mr. Lansing</p>

Italian 110b. <b>Modern Italian Literature</b>	Analysis of major works by Verga, Pirandello, Svevo, Moravia, Lampedusa, Pavese and Vittorini with respect to the political, economic and social problems of post-Risorgimento Italy. Lectures, discussion, readings and written work in Italian.	Russian 134b. <b>Stories and Plays of Chekhov</b>	A detailed chronological investigation of the evolution of Chekhov's art—a blend of realism and symbolism. Emphasis on the major themes, method of characterization and literary style of the stories; his innovative techniques in drama; certain thematic parallels between the late stories and the plays.
	Usually offered in even years.		Conducted in English with readings available in Russian for concentrators and in English translation.
	Mr. Lansing		
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Italian 140a. <b>Dante's Divine Comedy</b>	A close study of the entire poem — <i>Inferno</i> , <i>Purgatorio</i> , <i>Paradise</i> — as a symbolic vision of reality reflecting the culture and thought — political, philosophical, theological — of the Middle Ages. Readings will include two minor works, the <i>Vita Nuova</i> and <i>On Monarchy</i> . No knowledge of Italian is required.		Usually offered in even years.
	Usually offered in odd years.		
	Mr. Lansing		
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<b>Russian</b>			
Russian 106b. <b>Advanced Composition, Conversation and Reading</b>	Prerequisite: Russian 3a or equivalent. Conducted entirely in Russian.	Russian 135a. <b>The Short Story in Russia</b>	This course will focus on the great tradition of the short story in Russia. This genre has always invited stylistic and narrative experimentation as well as being a vehicle for the striking, if brief, expression of complex social, religious and philosophical themes. The works of such great prose innovators as Pushkin, Gogol, Turgenev, Dostoevsky, Leskov, Tolstoy and Chekhov offer confirmation of this notion.
	Usually offered every year.		Usually offered in even years.
	Ms. Broude		Ms. Miller
Russian 110a. <b>Advanced Readings in Russian</b>	Usually offered every third year.	Russian 136b. <b>The Literature of Autobiography, Childhood Reminiscence and Confession</b>	Despite the difficulties in attempting a genuine autobiography, childhood reminiscence or confession, Russian writers from Avvakum on have undertaken to express themselves authentically within these forms. Yet many of them, recognizing the problematic nature of a sincere first person utterance, have made fictional use of it to exploit and portray moral paradoxes. Readings will be drawn from Avvakum, Tolstoy, Dostoevsky, Nabokov and others.
	Ms. Broude		Usually offered in even years.
Russian 120b. <b>Literary Crosscurrents: Russia and the West</b>	Such writers as Gogol, Dostoevsky, Turgenev, Tolstoy and Chekhov, while fiercely proud of their Russian literary heritage, also learned about the craft of fiction from Western writers. This course will study representative works in response to the West and to such trends as the impact of Napoleon, the rise of the city and the changing role of women. Readings and emphases will vary.	Russian 137a. <b>The Heroine in Nineteenth-Century Russian Literature</b>	Ms. Miller
	Usually offered in even years.		
	Ms. Miller		
Russian 130a. <b>Nineteenth-Century Russian Literature</b>	A comprehensive survey of the major writers and themes of the nineteenth century, including Gogol, Turgenev, Dostoevsky, Tolstoy, Chekhov and others. Conducted in English. Readings available in Russian and in English translation.	Russian 137a. <b>The Heroine in Nineteenth-Century Russian Literature</b>	The remarkable women who populate prose fiction in nineteenth century Russia are virtually all the creations of male writers who often affirm the very conventions and moralities their female characters try to transcend. This course will examine questions of female representation and identity in readings from Pushkin, Lermontov, Gogol, Aksakov, Concharov, Turgenev, Dostoevsky, Tolstoy and Chekhov.
	Usually offered in even years.		Usually offered in odd years.
	Ms. Miller		Ms. Miller
Russian 146a. <b>Dostoevsky</b>	A comprehensive survey of Dostoevsky's life and works, with special emphasis on his five major novels. Conducted in English. Readings available in Russian for concentrators, and in English translation.	Russian 146a. <b>Dostoevsky</b>	Usually offered in odd years.
			Ms. Miller

Russian 147b. <i>Tolstoy</i>	This course will study the major novels and short stories of Leo Tolstoy (such as <i>The Cossacks</i> , <i>Family Happiness</i> , <i>War and Peace</i> , <i>Anna Karenina</i> , "The Death of Ivan Ilych," "Master and Man," "Father Sergius") against the backdrop of nineteenth-century history and with reference to twentieth-century critical theory.  Usually offered in even years.  Ms. Miller	Spanish 125a. <i>The Seventeenth Century</i>	The baroque mind: breakdowns and reorganization. Works by seventeenth-century Spanish poets and novelists.  Usually offered in odd years.  Staff
Russian 148a. <i>Survey of Russian Theater from 1719 to 1917</i>	Usually offered in even years.  Mr. Szulkin	Spanish 130a. <i>Nineteenth-Century Spanish Literature</i>	Usually offered in odd years.  Staff
Russian 148b. <i>A Survey of Twentieth-Century Russian Theater: Chekhov to the Present</i>	History and development of Russian drama from Chekhov to the present. Conducted in English. Readings available in Russian and in English translation.  Usually offered in odd years.  Mr. Szulkin	Spanish 140a. <i>Masters of Spanish Poetry</i>	Usually offered in even years.  Mr. Yglesias
Russian 149b. <i>Twentieth-Century Russian Literature, Art and Theater</i>	We will focus on the three decades 1900-1930 and their various artistic movements (Futurism, Constructivism, Imagism, Cubism, Dada, Surrealism) as reflected in literature, painting and theater. We will explore the interrelationships between these artistic movements and the political scene. Readings will illustrate the richness of this modern period of Russian culture. Conducted in English. Readings in English translation.  Usually offered in odd years.  Mr. Szulkin	Spanish 150a. <i>Spanish Drama of the Golden Age</i>	A journey in search of life, liberty and the pursuit of happiness. The transformation and development of modern theater and characters as seen in representative works of Cervantes, Lope de Vega, Tirso de Molina, Calderón and their contemporaries. Conducted in English with readings in English translation.  Usually offered in odd years.
Spanish		Spanish 160a. <i>Studies in Latin American Literature I</i>	Staff
Spanish 110a. <i>Introduction to Peninsular Spanish Literature</i>	Study of major periods, movements, works and authors from the Middle Ages to the end of the eighteenth century.  Usually offered in odd years.  Staff	Spanish 160b. <i>Studies in Latin American Literature II</i>	Topic varies from year to year.  Usually offered every year.  Staff
Spanish 111b. <i>Introduction to Spanish American Literature</i>	Study of major periods, movements, works and authors from the Conquest, through the wars of independence, to the middle of the twentieth century.  Usually offered in odd years.  Staff	Spanish 161a. <i>Masters of Modern Latin American Poetry</i>	Topic varies from year to year.  Usually offered every year.  Staff
Spanish 120a. <i>Cervantes: In Depth Study of Don Quixote</i>	Usually offered in even years.  Staff	Spanish 162b. <i>Argentine and Brazilian Literature</i>	Development of twentieth-century poetics through the works of Dario, Vallejo, Neruda and Paz.  Usually offered in even years.  Mr. Yglesias
Spanish 170b. <i>The Generation of 1898</i>	Readings from Unamuno, Baroja, Azorín, Machado, Ganivet.  Usually offered in odd years.  Mr. Larsen	Spanish 180b. <i>Twentieth-Century Spanish Literature</i>	A study of major writers, works, styles and movements of the twentieth century, in Spanish.  Usually offered in even years.  Mr. Larsen

<b>Spanish 181a. Revolt in Spain: Literature and Painting</b>	<p>We will examine representative works dealing with class struggle, political and religious conflicts, revolt in search of justice and freedom. Spain's socio-political and artistic history is one of constant conflicting forces from the early Middle Ages to the present. These upheavals have always found expression in the highest art forms. Authors include Lope de Vega, Larra, Galdós, Blasco Ibáñez and Lorca; paintings by Velásquez, Goya and Picasso.</p>	<b>Spanish 183a. Images of Spain</b>	<p>An examination of Spain's contribution to the western world's outstanding archetypes as seen in her writers and painters. Parallel views in literature and art will be studied. Works and artists covered include <i>The Cid</i>, <i>Celestina</i>, <i>Lazarillo</i>, St. Teresa, St. John of the Cross, Don Quixote, <i>The Trickster of Seville</i>; <i>El greco</i>, Velásquez, Goya, Dore, Picasso.</p>
	<p>Usually offered in odd years.</p>		<p>Usually offered in even years.</p>
<b>Staff</b>		<b>Staff</b>	
<b>Spanish 182b. The Spanish Civil War: Cultural Cataclysm</b>	<p>We will focus on works illustrating the background of the conflict, its development and far-reaching influence on the fiction, art, film, music, theater, poetry and journalism of later decades. In works by Alaya, Matute, Gironella, Picasso, Hernandez, Hemingway, among others, we will examine such motifs as the accommodations of the arts to various political persuasions, the exile experience, and coming home.</p>	<b>Spanish 185b. Realism in Modern Spain</b>	<p>A study of various realistic techniques in nineteenth- and twentieth-century Spain and their relationship to the realistic tradition in Spanish culture. Movements and styles such as <b>costumbrismo</b>, naturalism, perspectivism, <b>tremendismo</b>, surrealism, as expressed in a number of artistic media. Focus will be on writers and artists such as Galdós, Pardo, Bazán, Blasco Ibáñez, Pérez de Ayala, Cela, Lorca, Guillén, Dalí, Picasso, Buñuel.</p>
	<p>Usually offered in even years.</p>		<p>Usually offered in odd years.</p>
<b>Mr. Larsen</b>			<b>Mr. Larsen</b>

## Mathematics

### Objectives

The graduate program in mathematics is designed primarily to lead to the Doctor of Philosophy degree. The formal course work is devoted to giving the student a broad foundation for work in modern pure mathematics. An essential part of the program consists of seminars on a variety of topics of current interest in which mathematicians from Greater Boston often participate. In addition, the Brandeis-Harvard-MIT Mathematics Colloquium gives the student an opportunity to hear the current work of eminent mathematicians from all over the world.

### Admission

The general requirements for admission to graduate work in mathematics are the same as those for the Graduate School as a whole. The department has available a variety of fellowships and scholarships for well-qualified students. To be considered for such financial support the student should submit an application by February 15.

### Faculty

**Professor Gerald W. Schwarz,** Chair: Smooth and algebraic transformation groups, especially orbit structure. Coo functions on Rn.

**Professor Maurice Auslander:** Non-commutative algebra. Homological algebra.

**Professor Edgar H. Brown Jr.:** Algebraic topology: manifolds, cobordism, surgery, homotopy theory.

**Professor David A. Buchsbaum:** Commutative algebra. Homological algebra.

**Professor David Eisenbud:** Commutative algebra. Algebraic geometry. Knot theory and singularities of complex varieties.

**Professor Harold I. Levine:** Differential topology. Singularities of differential maps.

**Professor Jerome P. Levine,** Graduate Advisor: Differential topology. Knot theory and related algebra.

**Professor Teruhisa Matsusaka:** Algebraic geometry. Classification and deformations of algebraic varieties.

**Professor Alan L. Mayer:** Classical algebraic geometry and related Topics in mathematical physics.

**Professor Paul B. Monsky:** Number theory. Arithmetic algebraic geometry.

**Professor Richard S. Palais:** Non-linear partial differential equations. Calculus of variations in geometry of mathematical physics. Transformation groups.

**Visiting Professor Pierre van Moerbeke:** Stochastic processes. Korteweg-de Vries equation. Toda lattices.

**Visiting Professor Kei-ichi Watanabe:** Commutative algebra.

**Associate Professor Mark Adler:** Analysis: differential equations, completely integrable systems.

**Associate Professor Ira Gessel:** Theoretical computer science, enumerative combinatorics.

**Associate Professor Michael Harris:** Arithmetic of abelian varieties over number fields. Class field theory. P-adic representation theory. L-functions.

**Associate Professor Kiyoshi Igusa:** Algebraic K-theory.

**Assistant Professor Ivan Mirkovic:** Representation of lie groups with a strong emphasis in algebraic number theory and algebraic geometry.

**Assistant Professor Thomas Parker:** Differential geometry and the geometry of mathematical physics.

**Assistant Professor Troels Petersen:** Integrable Hamiltonian systems; algebraic groups; representation theory and abelian varieties.

**Assistant Professor Daniel Ruberman:** Geometric topology: knots and low dimensional manifolds.

**Assistant Professor Takahiro Shiota:** Analysis: partial differential equations.

**Visiting Assistant Professor Andrei Iacob:** Symplectic geometry and mechanics.

Lecturer with rank of Assistant Professor

**Thomas Kappeler:** Analysis.

Lecturer  
**Yong-Seung Cho:** Topology and analysis.

Lecturer  
**Florence Lecomte:** Algebraic geometry.

**Degree Requirements****Master of Arts**

1. One year's residence as a full-time student.
2. Successful completion of an approved schedule of courses.
3. Satisfactory performance in the basic courses in algebra, analysis, topology and geometric analysis — or equivalent examinations (see Program of Study).
4. Proficiency in reading French, German, or Russian.

**Qualifying Examination.**

110a and higher level courses in addition to preparation for the qualifying examinations described below and participation in the second-year seminar. Upon completion of the qualifying examinations, the student will choose a dissertation advisor and begin work on a thesis. This should be accompanied by advanced courses and seminars.

- Master of Philosophy**
1. Residence as a full-time student for two years.
  2. Successful completion of an approved schedule of courses.
  3. Superior performance in the basic courses in algebra, analysis, topology and geometric analysis — or equivalent examinations (see Program of Study).
  4. Participation in the Second-Year Seminar.
  5. Superior performance in the Qualifying Examination.
  6. Proficiency in reading two of French, German or Russian.
  7. Doctoral dissertation approved by the Department.
  8. Successful defense of the dissertation.

**Admission to Candidacy.**

The qualifying examination consists of two parts: a major examination and a minor examination. Both are normally taken in the latter part of the second year but may occasionally be postponed until early in the third year. For the major examination the student will choose a limited area of mathematics, e.g., differential topology, or several complex variables, or ring theory — and a major examiner from among the faculty. Together they will plan a program of study and a subsequent examination in that material. The aim of this study is to prepare the student for research toward the Ph.D. The minor examination will be more limited in scope and less advanced in content. The procedures are similar to those for the major examination, but its subject matter should be significantly different.

**Program of Study.**

The normal first year of study consists of Mathematics 101a and b, 111a and b, and 121a and b. In exceptional circumstances and only with the permission of the graduate advisor, a student with superior preparation may omit one or more of these courses and elect higher level courses instead. In this case he or she must take an examination in the equivalent material during the first year. The second year's work will normally consist of Mathematics

**Dissertation and Defense.**

To be admitted to candidacy for the Ph.D. degree in Mathematics, the student must have successfully completed the qualifying examination, must demonstrate proficiency in reading French, German or Russian and must be recommended for candidacy by the department.

The doctoral degree will be awarded only after the submission and acceptance of an approved dissertation and after the successful defense of that dissertation.

**Courses of Instruction**

<b>Mathematics 101a. Algebra I</b>	Groups, rings, modules. Galois theory, affine rings and rings of algebraic numbers. Multilinear algebra. The Wedderburn Theorem. Other topics as time permits.	<b>Mathematics 110b. Geometric Analysis</b>	The correspondence between Lie groups and Lie algebras. Exponential map, homomorphisms, Lie subgroups, and homogeneous spaces. Representations of compact Lie groups.
	Usually offered every year.		Usually offered every year.
	Mr. Buchsbaum		Mr. Palais
<b>Mathematics 101b. Algebra I</b>	A continuation of Mathematics 101a.	<b>Mathematics 111a. Real Analysis</b>	Measure and integration. LP spaces, Banach spaces, Hilbert spaces. Radon Nikodyn, Riesz representation and Fubini theorems. Fourier transforms.
	Usually offered every year.		Usually offered every year.
	Mr. Watanabe		Mr. Petersen
<b>Mathematics 110a. Geometric Analysis</b>	Manifolds, tensor bundles, vector fields and differential forms. Frobenius theorem. Integration, Stoke's theorem and deRham's theorem.		
	Usually offered every year.		
	Mr. H. Levine		

Mathematics 111b. <b>Complex Analysis</b>	The Cauchy integral theorem, calculus of residues, and maximum modulus principle. Harmonic functions. The Riemann mapping theorem and conformal mappings. Other topics as time permits.  Usually offered every year.  Mr. Adler	Mathematics 203a. <b>Number Theory</b>	Some of the following topics will be covered: basic algebraic number theory (number fields, Ramification theory, class groups, Dirichlet unit theorem); zeta and L-functions (Riemann-function, Dirichlet L-functions, primes in arithmetic progressions, prime number theorem); class field theory; modular functions and modular forms; cyclotomic fields; automorphic forms on Adele groups.  Usually offered in odd years.
Mathematics 121a. <b>Topology I</b>	Point set topology, fundamental group, covering spaces. Simplicial complexes, elementary homology and cohomology theory with applications. Manifolds and orientation, cup and cap products, Poincaré duality. Other topics as time permits.  Usually offered every year.  Mr. J. Levine	Mathematics 203b. <b>Number Theory</b>	Mr. Harris
Mathematics 121b. <b>Topology I</b>	A continuation of Mathematics 121a.  Mr. Cho	Mathematics 203b. <b>Number Theory</b>	A continuation of Mathematics 203a.  Usually offered in odd years.  Mr. Harris
Mathematics 150d. <b>Combinatorics</b>	Emphasis is on enumerative combinatorics. Generating functions and their applications to counting graphs, paths, permutations and partitions. Bijective counting, identities, Lagrange inversion and Möbius inversion.  Usually offered in odd years.  Mr. Gessel	Mathematics 211a. <b>Introduction to Mathematical Physics</b>	We will discuss Hamiltonian and Lagrangian formulations of mechanics; low dimensional mechanical systems like the pendulum; applications of group theory to mechanics, like Noether's Theorem and recent results in complete integrability.  Usually offered in odd years.  Mr. Adler
Mathematics 200a. <b>Second Year Seminar</b>	Usually offered every year.  Mr. Monsky	Mathematics 211b. <b>Topics in Differential Geometry and Analysis</b>	Usually offered in odd years.  Mr. Parker
Mathematics 201a. <b>Cohen-Macaulay Modules over Complete Cohen-Macaulay Rings</b>	Usually offered in odd years.  Mr. Auslander	Mathematics 221a. <b>Topology I</b>	Elementary homotopy theory, fibrations, obstruction theory and spectral sequences.  Usually offered in odd years.  Mr. Cho
Mathematics 201b. <b>Finite Resolutions and Representation Theory</b>	By dealing with resolutions of certain generic ideals and modules we will see one way that representation theory comes up in commutative algebra. We will then focus attention on some aspects of characteristic-free representation theory of the general linear group.  Usually offered in odd years.  Mr. Buchsbaum	Mathematics 221b. <b>Topology II</b>	Differential topology: transversality and characteristic classes. Geometric definitions of cobordism; computation via homotopy theory. Other topics as time permits.  Usually offered in odd years.  Mr. Ruberman
Mathematics 202a. <b>Algebraic Geometry I</b>	Usually offered in odd years.  Ms. Lecomte	Mathematics 291d. <b>Fellowship of the Ring — Seminar in Commutative Algebra</b>	Research seminar; not normally taken for credit.  Usually offered every year.  Staff
Mathematics 202b. <b>Algebraic Geometry I</b>	A continuation of Mathematics 202a.  Usually offered in odd years.  Ms. Lecomte	Mathematics 293d. <b>Topology Seminar</b>	Research seminar; not normally taken for credit.  Usually offered every year.  Staff

Mathematics 295d. <b>Algebraic Geometry Seminar</b>	Research seminar; not normally taken for credit.  Usually offered every year.	Mathematics 321a. <b>Topology III</b>	Usually offered every year.  Mr. Brown
	Staff	Mathematics 321b. <b>Topology III</b>	A continuation of Mathematics 321a.  Usually offered every year.
Mathematics 296d. <b>Seminar in Artin Rings and Representation Theory</b>	Research seminar; not normally taken for credit.  Usually offered every year.		Mr. Igusa
	Staff	Mathematics 324a. <b>Lie Groups</b>	Modules over the rings of differential operators. Weight filtration. Applications to representations of semisimple groups.
Mathematics 297d. <b>Number Theory Seminar</b>	Research seminar; not normally taken for credit.  Usually offered every year.		Usually offered in odd years.  Mr. Mirkovic
	Staff	Mathematics 324b. <b>Lie Groups</b>	A continuation of Mathematics 324a.  Usually offered in odd years.
Mathematics 299a and b. <b>Readings in Mathematics</b>	Usually offered every year.		Mr. Mirkovic
Mathematics 302a. <b>Soliton Theory</b>	Algebro-geometric theory of soliton equations and its application to the Schottky problem and the Prym-Schottky problem. Sato's theory of soliton equations and an infinite dimensional Grassmann manifold, infinite dimensional Lie algebras, and the relation to other completely integrable dynamical systems (e.g., the Calogero-Moser system) will also be discussed.  Usually offered in odd years.  Mr. Shiota	Mathematics 326a. <b>Topics in Algebraic Groups and Invariant Theory</b>	Usually offered every year.  Mr. Schwarz
Mathematics 302b. <b>Topics in Algebraic Geometry</b>	Moduli spaces of curves. An introduction to their construction and to the geometry of $M_g$ and $M_{g,1}$ for $g$ .  Usually offered in odd years.  Mr. Watanabe	Mathematics 326b. <b>Topics in Algebraic Groups and Invariant Theory</b>	A continuation of Mathematics 326a.  Usually offered every year.  Mr. Schwarz
Mathematics 311a. <b>Differential and Pseudodifferential Operators on Vector Bundles</b>	Usually offered in even years.  Mr. Jacob	Mathematics 399a and b. <b>Readings in Mathematics</b>	Usually offered every year.  Staff
Mathematics 311b. <b>Analysis III</b>	Advanced topics in analysis.  Usually offered in odd years.  Mr. Van Moerbeke	Mathematics 401d-416d. <b>Research</b>	All graduate courses will have organizational meetings the first week of classes.  Independent research for the Ph.D. degree.  401d. Mr. Auslander      409d. Mr. Schwarz 402d. Mr. Brown      410d. Mr. Eisenbud 403d. Mr. Buchsbaum      411d. Mr. Mayer 404d. Mr. H. Levine      412d. Mr. Van Moerbeke 405d. Mr. J. Levine      413d. Mr. Igusa 406d. Mr. Matsusaka      414d. Mr. Adler 407d. Mr. Monsky      415d. Mr. Harris 408d. Mr. Palais      416d. Mr. Gessel

## Music

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### Objectives

The graduate program in music, leading to the degrees of Master of Fine Arts and Doctor of Philosophy, is designed to provide a command of the craft of composition and an understanding of the nature, structural basis and historical development of music.

The following general fields of study are offered in music:

**1. Composition.** This program, emphasizing composition and supported by studies in analysis, leads to the degrees of Master of Fine Arts and Doctor of Philosophy.

**2. Musicology.** In this program students may elect to emphasize or concentrate in one of two different programs of study, music history or theory and analysis. In the music history program, a variety of techniques and methodologies, including source studies, style development and historiography are applied to different repertoires and historical problems. The program in theory and analysis features works in the history of theory from the medieval period to the present, as well as analytic work in the context of theory construction and the evaluation of tonal as well as contemporary analytic models. This program leads to the degrees of Master of Fine Arts and Doctor of Philosophy.

Students must specialize in one of these areas, but composers are expected to undertake some work in music history and historians to acquire some competence in tonal writing.

### Admission

Only a limited number of students will be accepted. The general requirements for admission to the Graduate School, as specified in an earlier section of this catalog, apply to candidates for admission to this area of study.

Applicants for study in musical composition and theory are required to submit, in addition to a transcript of their undergraduate records, evidence of qualification in the form of examples of original work in musical composition and advanced work in musical theory. Applicants for admission in musicology should submit examples of their prose writing on music as evidence of their ability to handle the language and specialized vocabulary. Undergraduate theses or term papers will be satisfactory. Musicology applicants wishing to specialize in theory and analysis should also submit examples of advanced work in musical theory. This work should be submitted together with the formal application for admission.

All applicants are expected to have some proficiency at the piano or an orchestral instrument. Information about this should be furnished when making formal application. A departmental written test in basic musicianship and analysis will be sent to all applicants; answers are to be submitted by mail on or before February 15.

Admission is granted for one academic year at a time. Students in residence must make formal application for readmission to the department on or before the final date specified in the Academic Calendar for filing "Application for Financial Aid." Readmission will be refused in cases where students have not demonstrated a capacity for acceptable graduate work.

### Faculty

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Professor  
**Robert L. Marshall,**  
Chair

Professor  
**Harold S. Shapero,**  
Director of Electronic  
Studios

Associate Professor  
**James D. Oleson**

Lecturer  
**Carolyn Bruse**

Performing Artists in  
Residence  
**Richard Ford**  
**Sarah Mead**  
**Lawrence Siegel**  
**Richard Vanstone**

Lydian String  
Quartet:  
**Judith Eissenberg**  
**Mary Ruth Ray**  
**Rhonda Rider**  
**Daniel Stepner**

Professor  
**Martin Boykan**

Professor  
**Caldwell Titcomb**

Associate Professor  
**Jessie Ann Owens**  
Assistant Professor  
**Allen L. Anderson**

Lecturer  
**Daniel Plante**

Professor  
**Allan R. Keiler**

Visiting Ziskind  
Professor  
**Yehudi Wyner**

Assistant Professor  
**Harry Ballan**  
Assistant Professor  
**Eric Chafe**

Lecturer  
**Armand Qualliotine**

Lecturer  
**Michael Schiano**

## Degree Requirements

### Master of Fine Arts

Language Requirement.	Group A: French, German, Italian. Group B: Spanish, Latin, Hebrew, Greek (and other languages at the discretion of the music faculty).	For candidates in composition.	analysis. Musicology students are required to take (1) at least one course in each of five historical periods, in any combination of proseminars or seminars; (2) at least two semesters of analysis; (3) the proseminar in composition or its equivalent.
	Candidates for the master's degree in Musical Composition and Theory must possess a reading knowledge of one language from Group A.	Examinations.	Composition students are required to take (1) proseminars and seminars in composition, (2) proseminars and seminars in tonal and non-tonal analysis, (3) a proseminal in music history or its equivalent.
	Candidates for the master's degree in History of Music must possess a reading knowledge of two languages from Group A.		Shortly after their arrival, new graduate students will be expected to take an examination in the standard literature of music. Where deficiency occurs, examinations will be repeated.
	Foreign language course credits will not in themselves constitute fulfillment of the language requirements for advanced degrees. All candidates must pass language examinations set or approved by the music faculty and offered periodically during the academic year. Students are urged to take these examinations at the earliest feasible date. In case of failure, an examination may be taken more than once.		Before the end of their second year of study, candidates for the degree of Master of Fine Arts must demonstrate their competence by means of a written general examination.
Instrumental Proficiency.	At least moderate proficiency at the piano is required of all candidates for advanced degrees.		The following timetable is suggested for major general examinations: <b>For candidates in composition</b> , the composition examination may be taken during the first year and repeated if necessary in the second; the analysis portion of the examination will normally be taken during the second year. Examinations may be repeated in the third year only in the case of a student not proceeding beyond the master's degree. <b>For candidates in musicology</b> , major general examinations will normally be taken during the second year; they may be repeated in the third year at the discretion of the faculty.
Residence Requirement.	Twelve semester courses at the graduate level, completed with distinction, and a thesis are required of all candidates.	Thesis.	Candidates for the degree of Master of Fine Arts in Music are required to submit a thesis. <b>For candidates in musical composition</b> , this will consist of a musical composition, its scope to be approved by the music faculty. <b>For candidates in musicology</b> , it will be an analytical or historical study on a topic acceptable to the music faculty. Candidates in the history of music may submit, in lieu of a separate thesis, revised copies of two seminar papers that have been certified by the seminar instructor and at least one other faculty member as demonstrating a high degree of competence in research and writing. Two copies of the thesis or composition must be submitted to the department chairman in final form no later than December 1 for a February degree or March 1 for a May degree.
For candidates in musicology.	The musicology program consists of three categories of courses: (1) proseminars in music history, (2) seminars in music history, (3) seminars in history of theory. Within each category courses are offered in the six principal historical periods of western music from the middle ages to the twentieth century (medieval, Renaissance, baroque, classical, romantic, modern). The proseminars survey an array of topics illustrating the representative avenues of research and methodological approaches. Seminars typically concentrate on a single topic. Courses in analysis similarly belong to three categories: (1) proseminars and seminars in tonal analysis, (2) proseminars and seminars in non-tonal analysis, (3) advanced		

<b>Doctor of Philosophy</b>	Admission to the doctoral program is normally granted at the end of the second year of residence and is determined by the student's performance in course work and general examinations. For candidates in music history, acceptance may be deferred pending repetition of portions of the major examinations.	examinations may, if desired, be replaced by the option of an additional semester of course work completed with distinction. For candidates in composition and theory, a semester of Music 200 or 299 is suggested; for candidates in history, an additional semester of Music 227.
<b>Residence Requirement.</b>	A minimum of 16 semester courses at the graduate level, completed with distinction, are required of all candidates.	After meeting their language, residence, and general examination requirements, candidates for the Ph.D. must pass a special oral qualifying examination.
	In general, the program of course work will be completed in three academic years.	Students will be admitted to candidacy for the Ph.D. degree upon successful completion of the written and oral qualifying examinations, fulfillment of the language requirements, and the approval of a dissertation topic.
	Applicants who have done graduate work elsewhere may apply for transfer of credit for such work; a maximum of one year of residence may be granted.	
	Candidates for the doctoral degree in musicology will normally take, in addition to two one-semester courses (proseminar or seminar) beyond those taken for the master's degree, two semesters of dissertation research (Music 401-411).	Candidates for the degree of Doctor of Philosophy in Composition must submit an original musical composition and a thesis on a theoretical or analytical subject. Candidates for the degree of Doctor of Philosophy in Musicology must submit a dissertation on a historical or analytical subject. Two copies of the doctoral dissertation, as well as an abstract of the dissertation not to exceed 350 words in length, should be submitted to the department or committee chairman no later than December 1 for a February degree and March 1 for a May degree of the academic year in which the Ph.D. degree is to be conferred.
<b>Language Requirement.</b>	Candidates for the doctoral degree in the history of music must possess a reading knowledge of all three languages in Group A. If appropriate to the student's program, the music faculty may accept a language in Group B in lieu of Italian. Candidates in composition and theory must possess a reading knowledge of one language of their choice from either group.	Candidates for the doctoral degree should demonstrate the competence of the candidate as an independent investigator, his or her critical ability and effectiveness of expression. Upon completion of the dissertation, the candidate will be expected to defend it in an oral examination.
<b>Instrumental Proficiency.</b>	At least moderate proficiency at the piano is required of all candidates.	
<b>Examinations.</b>	Candidates for the Ph.D. degree have no additional written examination requirements in their major field beyond those for the M.F.A. In the minor field, doctoral-level	

## Courses of Instruction

Except in the rarest circumstances, graduate credit is not allowed for courses numbered below Music 165.

<b>Music 168a. Orchestration</b>	The instruments of the orchestra: their construction, ranges and playing techniques, with a consideration of their use by major composers; the methods of writing effectively for present-day instruments, individually and in combination; the mechanics of reading and writing a score. Written exercises, analysis of scores, study of recorded performances and a live demonstration.	<b>Music 185a. Twentieth Century</b> Usually offered every third year. Staff
	Usually offered every third year. Staff	Composition and recording of electronic music. Technical electronics as they apply to musical problems. Usually offered every year. Mr. Shapero
<b>Music 182a. Topics before 1750</b>	Usually offered every third year. Staff	<b>Music 197a. Tutorial in the Analysis of Tonal Music</b> Usually offered in odd years. Mr. Keiler

<b>Music 197b. Tutorial in the Analysis of Twentieth-Century Music</b>	Basic analytical problems of the music of the twentieth century approached through detailed study of a few representative works.  Usually offered every year.  Staff	<b>Music 206b. Proseminar in the Music of the Twentieth Century</b>	In this course we will examine the music of the twentieth century from a variety of viewpoints, historical, theoretical and analytical. Topics will include several of the following: tonality and atonality in Germany and Austria, 1899-1923; twelve-tone music and serialism; the French and Russian avant-garde; neoclassicism; experimental music in America; minimalism, neo-romanticism and eclecticism; and recent music. In addition to covering broader historical issues, the course will involve some close analysis of selected works.
<b>Music Colloquium</b>	Discussions of special topics led by the faculty and occasional guests. Some of the sessions will include performances of new works. Required of all graduate students. Noncredit.  Usually offered every year.  Staff and Visiting Lecturers		Usually offered in even years.  Mr. Ballan
<b>Music 200b. Proseminar in Medieval Music</b>	Broad coverage of the principal topics and research techniques of medieval music; structure of the liturgy, chant notation, oral transmission theory, tropes and sequences, polyphonic notation, rhythmic modes.	<b>Music 207a. Proseminar in Analysis</b>	Basic study of the means by which a compositional form is realized; attention will be focussed on motives, groups and phrases as well as on rhythmic and metric considerations. Introduction to linear analysis.
	Introduction to standard bibliographic tools including editions, facsimiles, microfilms, liturgical books and reference books.		Usually offered in even years.  Staff
<b>Music 201a. Proseminar in Music of the Renaissance</b>	Usually offered in even years.  Ms. Owens	<b>Music 207b. Proseminar in Analysis</b>	A continuation of Music 207a.  Usually offered in even years.
<b>Music 202b. Proseminar in Music of the Baroque</b>	Usually offered every third year.  Mr. Chafe	<b>Music 208b. Problems in Cultural Historiography</b>	Usually offered in odd years.  Mr. Keiler
<b>Music 203b. Advanced Musical Analysis</b>	Usually offered in even years.  Mr. Ballan	<b>Music 210a. Seminar in Music of the Middle Ages</b>	Usually offered in even years.  Staff
<b>Music 204b. Proseminar in Music of the Eighteenth Century</b>	In addition to tracing the evolution of the principal genres (e.g., sonata, symphony, string quartet, opera buffa, opera seria), the course will assess the historical position of the major figures from Bach to Handel to Mozart and Haydn. Particular emphasis will be placed on understanding the phenomenon of the "style shift" from haroque to classical style.	<b>Music 211d. Seminar in Renaissance Musical Sources</b>	Usually offered in odd years.  Ms. Owens
<b>Music 205a. Proseminar in Music of the Nineteenth Century</b>	A broad study of the principal stylistic developments and musical genres of the nineteenth century; topics discussed would be, e.g., the significance of Beethoven on the musical thinking of the nineteenth century, the rise of national schools of composition, especially opera, program music and its aesthetic and compositional bases.	<b>Music 212a. Seminar: Theory of Modality and Tonality</b>	An investigation of various concepts related to tonal organization (such as mode, key, system, solmization) based on a close reading of theoretical treatises from the fifteenth through the seventeenth centuries.
			Usually offered in even years.  Ms. Owens
	Usually offered every third year.  Staff	<b>Music 213b. Seminar in Music of the Renaissance</b>	Usually offered in even years.  Ms. Owens

<b>Music 214b. Seminar: Baroque Topics</b>	An in-depth investigation of one selected topic in baroque music. Typical topics include the Monteverdi madrigals, seventeenth-century instrumental music, the Bach Passions. The methodology employed will vary according to the subject; emphasis will be given to more recent research in most cases.	<b>Music 227a. Proseminar in Theory and Composition</b>	Technical projects in theory and composition; baroque counterpoint; canon, fugue and chorale prelude.
	Usually offered every third year.		Usually offered every year.
	Staff	Mr. Shapero	
<b>Music 215b. Seminar: The Bach Sources</b>	Usually offered in even years.	<b>Music 227b. Proseminar in Theory and Composition</b>	Composition in classical forms with particular emphasis on sonata form.
	Mr. Marshall		Usually offered every year.
Mr. Shapero		Mr. Shapero	
<b>Music 216d. Seminar: The Origins of the Classical Style</b>	Usually offered every third year.	<b>Music 228a. Seminar in Twentieth-Century Techniques</b>	Written exercises utilizing some of the newer compositional techniques developed in the twentieth century.
	Staff		Usually offered in odd years.
Mr. Shapero		Mr. Shapero	
<b>Music 217a. Seminar: Recent Developments in Mozart Research</b>	The purpose of the course will be to assess the current state of the several areas of Mozart research; biography, source studies, work analysis, performance practice and the composer's music-historical position in the development of the "classical style."	<b>Music 233a. Topics in Analysis</b>	Analysis of medieval or Renaissance music. Twentieth-century works, not covered by the other analysis courses, may be included also.
	Usually offered every third year.		Usually offered every year.
	Staff	Mr. Plante	
Mr. Plante			
<b>Music 218b. Seminar in the Music of the Nineteenth Century</b>	Usually offered in even years.	<b>Music 233b. Topics in Analysis</b>	Usually offered every year.
	Mr. Keiler		Staff
Mr. Keiler			
<b>Music 219a. Seminar: Wagner and Die <i>Meistersinger</i></b>	Usually offered in even years.	<b>Music 234a. Analysis of Tonal Music</b>	Detailed examination of a few complete works of the tonal repertory (from Bach to Brahms).
	Mr. Chafe		Usually offered in even years.
Mr. Chafe		Staff	
Staff			
<b>Music 220a. Seminar: The German Post- Romantic Period</b>	Usually offered in odd years.	<b>Music 234b. Analysis of Extended Tonal Music</b>	Works in this course will be selected from the late nineteenth and twentieth centuries. Composers such as Wagner, Wolf, Debussy, early Schoenberg, Bartok and Stravinsky.
	Mr. Chafe		Usually offered in even years.
Mr. Chafe		Staff	
Staff			
<b>Music 224d. Seminar in Medieval Music Theory</b>	Usually offered every third year.	<b>Music 244b. Berlioz</b>	Usually offered every fourth year.
	Staff		Staff
Staff			
<b>Music 225. Seminar in Baroque Theory</b>	Usually offered every third year.	<b>Music 246a. Stravinsky</b>	Usually offered every fourth year.
	Staff		Staff
Staff			
<b>Music 226a. History and Literature of Western Music Theory: Baroque to 1850</b>	Usually offered in odd years.	<b>Music 270a. Seminar in Serial Music</b>	Twelve-tone procedures in Schoenberg, Webern and more recent composers. The course will be primarily concerned with the realization of serial technique in specific compositions. Attention will be focused on questions of articulation, phrasing, form and harmonic distinction.
	Mr. Keiler		Usually offered in odd years.
Mr. Keiler		Mr. Boykan	
		Mr. Boykan	
<b>Music 226b. History and Literature of Western Music Theory: 1850 to the Present</b>	Usually offered in even years.		

Music 270b.	A continuation of Music 270a.  Usually offered in odd years.  Mr. Boykan	Music 292b. <b>Seminar in Composition</b>	Usually offered every year.  Section 1: Mr. Boykan Section 2: Mr. Wyner
Music 291b. <b>Advanced Orchestration</b>	Scoring as a means of projecting a musical idea; questions of phrasing, emphasis and musical pacing. Analysis of scores as well as written exercises. Live performances whenever possible.  Usually offered in even years.  Staff	Music 299a. <b>Individual Research and Advanced Work</b>	Usually offered every year.  Staff
Music 292a. <b>Seminar in Composition</b>	Group meetings and individual conferences. Opportunities for the performance of student works will be provided.  Usually offered every year.  Section 1: Mr. Boykan Section 2: Mr. Wyner	Music 299b. <b>Individual Research and Advanced Work</b>	Usually offered every year.  Staff
		Music 401d-411d. <b>Dissertation Research</b>	Required of all doctoral candidates.  401d. Mr. Boykan      407d. Mr. Keiler 402d. Mr. Marshall      408d. Mr. Chafe 403d. Mr. Shapero      409d. Mr. Ballan 405d. Mr. Titcomb      411d. Mr. Anderson 406d. Ms. Owens
		Electronic Music Studios	Two studios with facilities for the composition of electronic music are available to qualified student composers.  Director: Mr. Shapero

## The Philip W. Lown School of Near Eastern and Judaic Studies

The Lown School is the center for all programs of teaching and research in the areas of Judaic Studies, Ancient Near Eastern Studies and Islamic and Modern Middle Eastern Studies. The school includes the Department of Near Eastern and Judaic Studies, the Hornstein Program for Jewish Communal Service and the Center for Modern Jewish Studies. The Department of Near Eastern and Judaic Studies offers academic programs in the major areas of its concern. The

Hornstein Program is a professional training program leading to the Master of Arts degree in Jewish Communal Service. It makes full use of academic resources of the Department of Near Eastern and Judaic Studies and other departments in the university.

The Center for Modern Jewish Studies conducts, and serves to stimulate research and teaching in Contemporary Jewish Studies, primarily in the field of American Jewish Studies.

### Near Eastern and Judaic Studies

#### Objectives

The graduate program in Near Eastern and Judaic Studies, leading to the Master of Arts and Doctor of Philosophy degrees, is designed to train scholars and teachers in the various cultures of the Near East and of classical and modern Judaic civilization, and to advance scholarly research in these areas. This work is done mainly through study of the relevant languages and literatures and the interpretation of primary sources.

#### Admission

The general requirements for admission to the Graduate School, as specified in an earlier section of this catalog, apply to candidates for admission to this department.

#### Faculty

**Professor Leon A. Jick,**  
Chair: Contemporary Jewish history.

**Professor Michael Fishbane:**  
Biblical studies. Dead Sea Scrolls.

**Professor Marvin Fox,**  
Director of the Lown School: Jewish philosophy. Rabbinic thought. Modern Jewish thought.

**Professor Alfred L. Ivry,**  
Director of Graduate Studies: Jewish philosophy. Islamic philosophy.

**Professor Benjamin C. I. Ravid:**  
Jewish history.

**Professor Jehuda Reinhartz:**  
Modern Jewish history. History of Zionism.

**Professor Bernard Reisman:**  
Jewish communal service.

**Associate Professor Tzvi Abusch:**  
Assyriology. Religions and cultures of the Ancient Near East.

**Associate Professor Reuven Kimelman:**  
Talmud and Rabbinic literature.

**Associate Professor Avigdor Levy,**  
Director of Islamic and Middle Eastern Studies: Middle Eastern studies.

**Associate Professor Gary Tobin,**  
Director of the Center for Modern Jewish Studies: Jewish community research and planning.

**Assistant Professor Mare Brettler:**  
Biblical studies.

**Assistant Professor David Fishman:**  
East European Jewish history and culture.

Lecturer with rank of Associate Professor  
**Ruth Collan:**  
Director, Hebrew language program.

Lecturer with rank of Associate Professor  
**Thomas Phillip:**  
Arabic language and literature.

**Lecturer Charles Cutler:**  
Judaic bibliography.

#### Program of Study

Among the main fields in the area of Near Eastern and Judaic Studies in which courses are being given in the Graduate School are:

Bible and Ancient Near East Studies.  
Jewish History  
Hebrew Literature  
Jewish Thought

Jewish Philosophy, Medieval and Modern Islamic Philosophy  
Ottoman History  
The Modern Middle East  
Contemporary Jewish Studies

The department regularly offers additional courses in related fields.

<b>Degree Requirements</b>	<b>Language Requirement.</b>	Candidates will be required to establish competence in Hebrew or Arabic as well as in two European languages, normally French and German. Additional languages may be required as necessary for research in each individual candidate's field.
<b>Master of Arts</b>	<b>Comprehensive Examinations.</b>	All candidates for the Ph.D degree are required to pass three comprehensive examinations. The first examination in each field will be a written comprehensive qualifying examination covering the field as a whole. The second and third examinations will usually be oral and will cover more specialized subjects within the candidate's field.
Residence Requirement.		
Language Requirement.		A student registered for studies leading to the Ph.D. degree becomes a candidate for that degree upon fulfilling the residence requirements, passing the comprehensive examinations, satisfying the language requirements and having a dissertation proposal approved by the department.
Comprehensive Examination.	<b>Admission to Candidacy.</b>	
Thesis.	<b>Dissertation and Defense.</b>	The dissertation must demonstrate the candidate's thorough knowledge of the field and competence in independent research, and must constitute an original contribution to knowledge. Two copies of the dissertation, one of which must be the original typescript, are to be deposited in the office of the department chair no later than April 1 of the year in which the candidate expects to earn the degree. The student must successfully defend the dissertation at a final oral examination.
<b>Doctor of Philosophy</b>		
Residence Requirement.		

## Courses of Instruction

NEJS 101a. <b>Introductory Literary Arabic</b>	A first course in literary Arabic covering the essentials of grammar, reading, pronunciation, translation and composition.  Usually offered every year.  Mr. Phillipp	NEJS 103a. <b>Advanced Literary Arabic</b>	This course is designed to help the student attain an advanced reading proficiency. The syllabus includes selections from classical and modern texts representing a variety of styles and genres.  Usually offered every year.  Mr. Levy
NEJS 101b. <b>Introductory Literary Arabic</b>	A continuation of NEJS 101a.  Usually offered every year.  Mr. Phillipp	NEJS 103b <b>Advanced Literary Arabic</b>	A continuation of NEJS 103a.  Usually offered every year.  Mr. Levy
NEJS 102a. <b>Intermediate Literary Arabic</b>	Study of advanced grammatical and syntactical forms. Reading in classical and modern texts. Drills in pronunciation and composition.  Usually offered every year.  Mr. Phillipp	NEJS 10+ta. <b>Islam: Civilization and Institutions</b>	Consideration of major issues in Islamic history. Examinations of the principle of Islamic theology and law; philosophy and political theory; social and political institutions. Appreciation of Islamic civilization and culture; relations with other cultures. Islam in modern times.  Usually offered in odd years.  Mr. Levy
NEJS 102b. <b>Intermediate Literary Arabic</b>	A continuation of NEJS 102a.  Usually offered every year.  Mr. Phillipp		

NEJS 104b. <b>Aramaic Dialectology</b>	A grammatical study of one of the ancient dialects accompanied by the reading of texts. The dialect treated will vary from year to year, and the course may be repeated for credit.  Usually offered in odd years.  Staff	NEJS 110b. <b>Medieval Philosophy</b>	Averroes and Averroism: a study of the metaphysical ideas of one of the most influential figures in medieval philosophy and of the reactions to these ideas.  Usually offered in even year.  Mr. Ivry
NEJS 106d. <b>Elementary Ugaritic</b>	Grammar and poetic texts will be read with constant reference to biblical literature.  Usually offered in even years.  Staff	NEJS 111a. <b>Introduction to Biblical Literature</b>	A survey of the Hebrew Bible and its main themes. Biblical books will be examined from the archaeological, literary and traditional perspectives, and will be compared with other ancient Near Eastern compositions. The question of whether there is one correct method of interpreting biblical texts will be explored. No knowledge of Hebrew is presumed.  Usually offered in even years.  Mr. Brettler
NEJS 107b. <b>Themes and Ideas in Mesopotamian Literature</b>	This course will introduce the students to the great literary genres of Mesopotamian civilization. Texts will be studied in translation and examined from literary and cultural points of view. Selections from such groups as epics, wisdom, historical prose, religious and love poetry.  Usually offered every four years.  Mr. Abusch	NEJS 111b. <b>Genesis</b>	Selected portions of the book will be read in Hebrew; textual exegesis and literary study. Particular attention to the meaning and background of the primeval history.  Usually offered every four years.  Mr. Abusch
NEJS 108a. <b>Elementary Akkadian</b>	Introduction to Akkadian grammar and lexicon. This course is for beginning students of Akkadian.  Usually offered every year.  Mr. Abusch and Staff	NEJS 112b. <b>The Book of Isaiah</b>	A textual and exegetical study; the historical background and leading ideas.  Usually offered in even years.  Mr. Fishbane
NEJS 108b. <b>Comparative Grammar of Semitic Languages</b>	An introduction to the internal relationships within the Semitic family and the distinctive linguistic features of its components. Grammatical and lexical similarities to Egyptian and other related languages of North Africa will be studied. Both the earliest documented ancient languages and contemporary spoken dialects will be considered.  Usually offered in odd years.  Staff	NEJS 113a. <b>The Book of Targum</b>	A study of selections from Targumic literature including the newly discovered Palestinian materials. Critical study of the sources and their place among early versions and exegesis.  Usually offered every fourth year.  Mr. Fishbane
NEJS 109a. <b>Genesis in Light of Archaeology</b>	The book of Genesis will be considered as a whole and selections will be analyzed in depth against the historical background that gave rise to the traditions. The creation of man, calculation of life spans, the deluge and Noah's ark, the patriarchal homeland, the promised land and its holy sites, the Egyptian link and the Damascus connection will be discussed.  Usually offered every year.  Staff	NEJS 113b. <b>The Book of Exodus</b>	Selected readings (in Hebrew): a detailed study of the Book, its structure, text and exegesis, historical background and problems, its leading themes and ideas.  Usually offered every fourth year.  Mr. Fishbane
NEJS 109b. <b>Intermediate Akkadian</b>	Review of grammar, introduction to Cuneiform script and reading of Old Babylonian inscriptions, laws and letters.  Usually offered every year.  Mr. Abusch	NEJS 114a. <b>The Book of Amos</b>	An intensive study of the text in English translation, the historical background, the leading ideas, his contribution to biblical religion.  Usually offered every fourth year.  Staff

NEJS 114b. <b>Introduction to Sumerian: Historical Inscriptions</b>	Usually offered every third year. Mr. Abusch	NEJS 119b. <b>The Minor Prophets</b>	A textual and exegetical study; their historical background and leading ideas. Usually offered every fourth year.
NEJS 115a. <b>Book of Deuteronomy</b>	A close examination of the text of Deuteronomy with special attention to its religious, legal and compositional features. Traditions found in the Book of Deuteronomy will be compared with their counterparts elsewhere in the Pentateuch. The place of the Book of Deuteronomy in the history of the religion of Israel will be considered. Usually offered every third year. Mr. Fishbane	NEJS 120b. <b>Intermediate Talmud</b>	Staff A more intensive study of selected portions of Treatise Sanhedrin not dealt with in NEJS 53a. Greater emphasis will be placed on the understanding of the classical commentaries. Students will be expected to develop the ability to work through a section of the text on their own. The analysis will deal with the issue of voluntary and compulsory arbitration, and the binding nature of gambling agreements. Usually offered every year.
NEJS 116b. <b>The Problem of Evil in Jewish Philosophy</b>	Beginning with an analysis of the general philosophical/theological problem posed by the problem of evil, the course will continue with a systematic account of the main treatments of the problem in Jewish thought from antiquity to the present. Usually offered in even years. Mr. Fox	NEJS 121b. <b>Aspects of the Apocalyptic Imagination</b>	Mr. Kimelman Usually offered every fourth year. Mr. Fishbane
NEJS 117a. <b>Job and the Problem of Evil</b>	A close study of the Book of Job within the context of biblical explanations of evil and suffering, and within the wider framework of the history of religion. Texts from the Jewish tradition, from Indian thought ( <i>The Bhagavad Gita</i> ) and from modern literature (including Kosinski's <i>The Painted Bird</i> and Kafka's <i>The Trial</i> ) will also be read and discussed. All texts will be in English. Usually offered in even years. Mr. Fishbane	NEJS 122b. <b>Story Telling in the Hebrew Bible</b>	An examination of the narrative techniques of various biblical stories, including selections from Genesis, Judges, Samuel, Jonah and Ruth. Consideration of such topics as perspective, irony, mimesis and repetition of key words. The basic tools for biblical research will also be introduced. Prerequisite: knowledge of Biblical Hebrew. Usually offered in even years. Mr. Brettler
NEJS 117b. <b>Dead Sea Scrolls</b>	Studies in the exegetical literatures of Qumran with particular attention to a detailed examination of the so-called Pesher literature. Emphasis will be placed on interpretative techniques and a consideration of the historical background of the texts where pertinent. Usually offered every three years. Mr. Fishbane	NEJS 123b. <b>Classical Biblical Commentaries</b>	An intensive study of the French and Spanish schools of Jewish commentators on selected books of the Bible. Usually offered in odd years. Mr. Fox
NEJS 118b. <b>Book of Psalms</b>	Selected readings of biblical psalms. Special attention will be paid to religious ideas, literary forms and poetics. Other examples of biblical poetry will be considered as well. Usually offered every third year. Mr. Fishbane	NEJS 124a. <b>Modern Jewish-Christian Religious Thought</b>	An examination of major Jewish and Christian thinkers of the nineteenth and twentieth centuries, emphasizing their creative role in the formation of distinctive religious ideas. Primary source materials will be used for the assigned readings. The course will be jointly taught by two specialists in the respective areas of Jewish and Christian thought. One main concern will be to explore the varieties of ways in which the major religious thinkers respond to each other and to modern culture. Usually offered in even year. Mr. Fox
NEJS 119a. <b>The Book of Ezekiel</b>	Usually offered every third year. Staff		

<b>NEJS 124b. Introduction to Jewish Mysticism</b>	<p>A survey of the field of Jewish mysticism as reflected in its history, its major texts, its original ideas and its symbolic structures. In addition to the standard secondary works, readings will include selections from the primary sources such as the Zohar. While focusing on the history and development of the central themes in Jewish mysticism, the course will also be concerned with how to read a Jewish mystical text. All readings will be in English. There is no language prerequisite.</p>	<b>NEJS 129b. Alexandria: The City and the Idea</b>	<p>A study of the first cosmopolitan society in Western History; its political and social history, its growth as a cultural center and its function as an arbiter of style and taste in the arts and sciences. The meeting of Greek and Jew, with their diverse cultures, had profound consequences for Western culture, and the extent of their interaction will be examined in detail.</p>
	<p>Usually offered in even years.</p>	<p>Usually offered every fourth year.</p>	<p>Staff</p>
<b>NEJS 125b. Midrashic Literature: Sifre Deuteronomy</b>	<p>An analysis of the central ideas, the literary structures and the midrashic method of the Sifre Deuteronomy. Emphasis will be placed on a close reading of the text with a view to developing in the students the capacity to do an independent analysis of midrashic literature. Attention will also be given to the general background and development of Midrash.</p>	<b>NEJS 130a. Images of Moses Ancient and Modern</b>	<p>Moses, the supreme legislator and prophet of ancient Israel, often came to be viewed in later periods as the symbol of everything Jewish. We will examine a classic group of writings, from Philo and the rabbis to Buber and Freud, not only to see how later generations understood Moses' personality, character and legacy, but, more particularly, as a touchstone of changing attitudes to the Jewish heritage and as a key to the history of intergroup dynamics between Jew and non-Jew.</p>
	<p>Usually offered every fourth year.</p>	<p>Usually offered every fourth year.</p>	<p>Staff</p>
<b>NEJS 127a. Greek Jewish Literature</b>	<p>Usually offered in even years.</p>	<b>NEJS 130b. The Philosophical and Religious Thought of Maimonides</b>	<p>A comprehensive study of major aspects of the thought of Moses Maimonides, the greatest figure of the Jewish middle ages. Attention will be given to his contributions to Jewish law, as well as to his major philosophical and religious teachings.</p>
	<p>Usually offered every four years.</p>	<p>Usually offered in even years.</p>	<p>Mr. Fox</p>
<b>NEJS 127b. The Jewish Liturgy</b>	<p>A study of the literary structure, theological framework and historical development of the Sabbath and daily liturgy. Emphasis will be placed on the interplay of the literary forms and theological ideas in each prayer, and within the flow of the complete service. Concomitantly, works on the problematics of prayer will be studied. Scholars such as Eliezer Berkovitz, Daniel Goldschmidt, Joseph Heinemann, Abraham Heschel, Issachar Jacobson and Trygve Kronholm will be read.</p>	<b>NEJS 131a. Jewish Thought: From the Bible to Maimonides</b>	<p>Dominant themes in Jewish philosophy and religious thought from biblical times to the medieval period and its classical formulations of Judaism.</p>
	<p>Usually offered every three years.</p>		<p>Usually offered every odd years.</p>
	<p>Mr. Kimelman</p>		<p>Mr. Brettler</p>
<b>NEJS 128a. Jews, Greeks and Romans</b>	<p>Rulers, rabbis and rebels from the Maccabees to Mohammed; talmudic Judaism and the background of Christianity. We examine the political conflicts and social and religious accommodations between the Jews and their conquerors in late antiquity.</p>	<b>NEJS 131b. Biblical Poetic Texts</b>	<p>A close reading of Hebrew poetic texts of different types from different time periods and a consideration of what makes these texts "poetic." Texts will include selections from Song of Songs, Psalms and Isaiah; issues will include meter and parallelism.</p>
	<p>Usually offered in even years.</p>		
	<p>Staff</p>		

<b>NEJS 133b. Basic Themes in Medieval Hebrew Literature</b>	The course will concentrate on the Spanish school of Hebrew poets. A study of the basic themes, the connections to the early Hebrew sources, to Arabic mysticism and asceticism, and to philosophical and theological movements.	<b>NEJS 140a. The Jews in Europe to 1492</b>	An examination of the phenomenon of Jewish survival in the European diaspora; the Jews in the Roman Empire; the origins of antisemitism; the Jewish religious heritage; the medieval Jewish community; the medieval church, society, economy and the Jews; the expulsion of the Jews from Western Europe.
<b>NEJS 135a. Jewish and Islamic Philosophy: The Platonic Dimension</b>	Usually offered in odd years.  Mr. Levin		Usually offered every fourth year.  Mr. Ravid
<b>NEJS 135b. Aristotelian Elements in Islamic and Jewish Philosophy</b>	The influence of Plato's philosophy, with its strong affinity to mystical thought, was widespread in medieval Jewish and Islamic philosophy. This course will examine this dimension in the writings of Shlomo ibn Gabirol, Judah Halevi, Avicenna and other leading medieval thinkers.		The Jews in the Renaissance; the Marranos; the Reformation, counter-Reformation and the Jews; Eastern Europe, mysticism, messianism and hasidism; <i>raison d'état</i> and the readmission of Jews to Western Europe; court Jews, Prussia and the Berlin enlightenment; emancipation; some modern philosophies of Jewish history.
	Usually offered every third year.  Mr. Ivry		Usually offered every fourth year.  Mr. Ravid
<b>NEJS 137a. Three Major Themes in Modern Hebrew Literature</b>	Medieval Aristotelianism is faithful to Aristotle, but in its fashion. That fashion is decisive in Islamic and medieval Jewish philosophy. It will be explored by first ascertaining Aristotle's views in the areas of physics, metaphysics and ethics; and then by tracing expressions of these ideas in English translations of writings of Alfarabi, Avicenna, Abraham ibn Daud and Maimonides.	<b>NEJS 141b. Jews, Catholics and Protestants in Western Europe, from the Reformation to the Present</b>	A study of the political, legal, social and economic status of Catholics, Protestants and Jews in early and modern Europe, with emphasis on the status of minorities and their struggle for equality in the transition from the medieval <i>res publica Christiana</i> to the modern secular nation-state.
	Usually offered every third year.  Mr. Ivry		Usually offered every year.  Mr. Ravid
<b>NEJS 137b. Contemporary Israeli Literature</b>	In the past two centuries, Judaism's spiritual crises have been reflected in secular Hebrew literature. Israeli fiction in turn, reflects many of the problems in contemporary Israeli life: the relation to the Arab, the self-definition of the Jew, etc. Works discussed will be those of Moshe Shamir, Aharon Appelfeld, Binyamin Tammuz, Amos Oz, A. B. Yehoshua and others.	<b>NEJS 142a. An Introduction to Post-Biblical Jewish History</b>	An introduction to the main trends and developments in the legal, economic, social and religious history of the Jews, with emphasis on major areas of Jewish settlement.
	Usually offered in even years.  Staff		Usually offered in odd years.  Mr. Ravid
<b>NEJS 139a. Hebrew Literature: Modern Prose</b>	Usually offered in odd years.	<b>NEJS 142b. Economic History of the Jews</b>	
<b>NEJS 139b. Modern Hebrew Literature: Poetry</b>	Usually offered in odd years.		The economic history of the Jews in the Hellenistic world and the Dark Ages; commerce, moneylending and the Jewish problem; the economic activities of the Jews in medieval Europe; <i>raison d'état</i> , Mediterranean commerce, Italy and the readmission of the Jews to Holland, England and France; the road to emancipation.
	Staff		Usually offered every fourth year.  Mr. Ravid
		<b>NEJS 143b. Hellenistic Philosophies</b>	
			This course will examine major philosophical movements of the Greco-Roman world of fate antiquity. The ideas of Epicureanism, Stoicism, Skepticism and Neoplatonism will be studied, with particular attention to the writings of Philo, Plotinus and the Church Fathers.
			Usually offered every fourth year.  Mr. Ivry

<b>NEJS 144a. Jewish Communities in the Muslim Middle East</b>	A historical survey of Jewish-Muslim attitudes, relations and interactions in the Muslim countries of the Middle East. Among the subjects to be discussed: the legal position of the Jews under Islam; Muslim actual policies and attitudes; Jewish-Muslim cultural interaction; Jewish social organization in Muslim lands.	<b>NEJS 147a. History of the Middle East and the Ottoman Empire, 1450-1914</b>	A historical survey of the Near East from the establishment of the Ottoman Empire as the area's predominant power to World War I. Topics include Ottoman institutions, their transformation and impact on Near Eastern society, the Ottoman Empire as a world power; decline and European imperialism; nineteenth-century reform and westernization.
	Usually offered every fourth year.  Mr. Levy		Usually offered in even years.  Mr. Levy
<b>NEJS 144b. Nationalism in the Middle East</b>	A historical and comparative analysis of Arab, Turkish and Persian nationalism in the twentieth century. Origins, ideological currents and attitudes toward national, regional and global issues are among the topics to be discussed.	<b>NEJS 147b. The Arab-Israeli Conflict</b>	Consideration of Arab-Jewish relations, attitudes and interactions from 1880 to the present. Traces the evolution of the struggle for Palestine into a major regional conflict. Emphasis is on social factors and intellectual currents and their impact on politics. Examines the conflict within its international setting.
	Usually offered in even years.  Mr. Levy		Usually offered in even years.  Mr. Levy
<b>NEJS 145a. State and Society in the Middle East</b>	The sharp polarities that lie at the heart of Middle Eastern politics are seen in the clashes between authoritarianism vs. democracy, westernization vs. tradition, women's rights vs. male dominance, religious fanaticism vs. tolerance. This course will examine how governments from Morocco to Iran have pursued economic development in environments of scarcity and conflict. Multi-disciplinary readings of a current nature will emphasize the "insider's" point of view.	<b>NEJS 149b. Islamic Bibliography</b>	The purpose of this course is to familiarize the student with the history of oral and written communications in Islam and Middle East. Origins and development of printing is discussed. Special emphasis is placed on bibliographic literature in Western languages of Arabic, Turkish and Persian manuscripts and printed works. There are no prerequisites, although a workable knowledge of European languages and languages of the area is desirable.
	Usually given every year.  Ms. Miller		Usually offered every fourth year.  Staff
<b>NEJS 145b. The Making of the Modern Middle East</b>	This course will discuss the processes which led to the emergence of the modern Middle East: disintegration of Islamic society in the nineteenth century; European colonialism; reform and reaction; the rise of nationalism and the emergence of the modern states.	<b>NEJS 150a. Foundations of Zionist Thought</b>	A study of some of the major texts of Zionist thought dealing with such topics as: the Zionist understanding of the Diaspora; the Zionist vision of the non-Galut Jew; the Zionist critique of the Enlightenment and assimilation; Zionism and messianism; Zionism and socialism; Zionism and antisemitism; political Zionism; religious Zionism; cultural Zionism.
	Usually offered every fourth year.  Mr. Levy		Usually offered every fourth year.  Mr. Reinharz
<b>NEJS 146b. Judaism, Christianity and Islam</b>	A comparison of three kindred religions, from antiquity to current times. The tenets of these faiths, their doctrines and rituals will be examined in the perspective of their historic and on-going relationship. Contemporary religious issues affecting all three traditions will be discussed.	<b>NEJS 151b. History of the Jews of Venice</b>	An examination of some key problems in Jewish history in the light of the experience of the Jews of Venice in the context of the general social, political and economic history of that city. Topics include: the attitude of the church and state toward the Jews, the institution of the ghetto, Jewish merchants and money lenders, the Marranos and the inquisition, <i>raison d'état</i> and the admission of the Jews to Western Europe and North America. Attention will also be paid to techniques of archival research.
	Usually offered every fourth year.  Mr. Ivry		Usually offered in odd years.  Mr. Ravid

NEJS 152b. <b>A History of Antisemitism</b>	A historical survey of the phenomena of antisemitism from classical antiquity to the present. The historical background will be presented in lectures, while the readings, devoted exclusively to the topic of antisemitism, will serve as the basis for discussion sessions.	NEJS 158b. <b>Biblical Prophecy: Book of Jeremiah</b>	A study of the Hebrew text of the book of Jeremiah with emphasis on the role of prophecy and the literary forms and theological issues with which the prophet deals.
	Usually offered in odd years.		Usually offered every fourth year.
	Mr. Ravid		Mr. Fishbane
NEJS 153b. <b>Sephardic Jewry</b>	From the mass conversions of Jews to Christianity in 1391 to the establishment of the Spanish Inquisition in 1478, and beyond into the sixteenth and seventeenth centuries, the role and position of Spanish and Portuguese Jewry in their own and in Iberian and world history underwent profound changes. This course examines the social and intellectual history of professing Sephardic Jewry at home and abroad, of believing New Christians, and of the secret Jews known as Marranos, many of whom later reemerged as Jews in such centers as Venice, Amsterdam and Constantinople.	NEJS 160a. <b>The Emergence of the American Jewish Pattern, 1654-1967</b>	Survey of American Jewish history from the earliest settlement to the present. The emergence of the institutions, ideologies, life styles and cultural norms which constitute the American Jewish pattern.
	Usually offered odd years.		Usually offered every year.
	Staff		Mr. Jick
NEJS 154b. <b>Introduction to Modern Arabic Political Literature</b>	A survey of representative Arabic political literature in the twentieth century. This course is intended to prepare students to read and understand modern Arabic political writing against the background of contemporary historical events and intellectual currents. Among the authors studied will be Qustantin Zurraq, Sati al-Husri, Gamal Abdel-Nasser, Michel Aflaq.	NEJS 161a. <b>American Jewish Life</b>	A survey of contemporary American Jewish life with special emphasis on the diverse forms of Jewish identification found in American Jewry. Topics include Reform, Conservative, and Orthodox Judaism; Jewish family life including intermarriage; and the relationship of Jews to the general society and to other ethnic groups.
	Usually offered every fourth year.		Usually offered every year.
	Staff		Mr. Sklare
NEJS 156b. <b>Man and the Gods: Mythology and Magic of the Ancient Near East</b>	An introduction to the myth and magic of the ancient Near East. Special attention will be paid to how the myths express an understanding of the gods and the world, and how magic deals with anxieties of human existence.	NEJS 162b. <b>The Rise of Modern Yiddish Culture</b>	Yiddish, the language spoken by nearly all East European Jews, was historically denigrated as a jargon unsuited for higher cultural expression. This course will examine the process by which Yiddish became the vehicle for a sophisticated modern culture, encompassing poetry, prose, literary and social criticism, theater, journalism, education and scholarship. Following an overview and analysis of Yiddish culture in Russia and Poland between 1880 and 1925, we will consider the challenges which it faced in three radically new settings—the USSR, Palestine and America. All readings will be in English.
	Usually offered in odd years.		Usually offered in even years.
	Mr. Abusch		Mr. Fishman
NEJS 157a. <b>A History of Israel, 1948-Present</b>	An analysis of Israel's domestic and foreign policies from 1948 to the present. Particular attention will be given to social and political trends in Israeli society, issues of war and peace, relations with Arabs and Palestinians and relations with the United States.	NEJS 163a. <b>The Sociology of the American Jew</b>	The individual, the in-group and the majority society; minority group personality development; the Jewish family; patterns of self-segregation, acculturation and assimilation, religion in American society and in the life of the individual Jew.
	Usually offered every fourth year.		Usually offered every fourth year.
	Mr. Reinhartz		Mr. Sklare
NEJS 164b. <b>The Sociology of the American Jewish Community</b>	The role of the sub-community in American society; Jewish communal services in medieval and modern times; contemporary American Jewish communal forms; religion, community relations, overseas aid, social welfare and relationship with Israel.		Usually offered every year.
			Mr. Sklare

<b>NEJS 166a. Modern Jewish History to 1880</b>	Major themes will include: Enlightenment and Haskalah in eastern and western Europe, Hasidism, Emancipation and the argument for and against Emancipation, assimilation and the problem of the marginal Jew, the Science of Judaism, the development of denominationalism in Judaism.	<b>NEJS 170b. History and Culture of the Jews in Eastern Europe, 1815-1939</b>	This course will focus on the great challenges and changes which were experienced by East European Jewry in modern times. These include: antisemitism in its Tsarist, Soviet and Polish forms; the Jewish Enlightenment and the emergence of a secular Jewish culture in Yiddish and Hebrew; the rise of modern political currents—Zionism, Diaspora and Nationalism, and Socialism; and the liquidation of Jewish institutions in the Soviet Union.
<b>NEJS 166b. Modern Jewish History 1880-1948</b>	Major themes will include: integration and assimilation, migration, nationalism, Zionism, non-Zionism, anti-Zionism, Diaspora nationalism, western and eastern Jewry in the period between the World Wars, the Holocaust and the establishment of the State of Israel.	Usually offered every fourth year.	Mr. Fishman
<b>NEJS 168a. East European Jewry to 1815</b>	For centuries, Eastern Europe was one of the world's most vibrant centers of Jewish life. In this course we will plot the growth and development of East European Jewry from its infancy until the beginning of modern times. Particular attention will be paid to the social and cultural features which distinguish this Jewry from others—the Yiddish language, the shtetl and Hasidism. We will also examine the process by which Western ideas of enlightenment and modernity began to make inroads into Eastern Europe, and challenge traditional values and institutions.	Usually offered every odd year.	Mr. Fishman
<b>NEJS 168b. History of the Jews in the Soviet Union</b>	Topics will include: Lenin and the "Jewish question," the Jewish sections of the Communist party, the rise and fall of Soviet Yiddish culture, the Holocaust in the Ukraine and White Russia, antisemitic policies and propaganda in the post-war period, the emigration of the 1970s.	Usually offered in odd years.	Mr. Fishman
<b>NEJS 169a. The Destruction of European Jewry</b>	The function of antisemitism in the comparative history and politics of Nazism; the Holocaust organization and the victims' responses; allied policies and Western reactions; post-war punishment and reparations. Interdisciplinary approaches to historical sociology and legal philosophy will be applied.	Usually offered every fourth year.	Mr. Fishman
	Usually offered every year.	Mr. Reinhartz	Mr. Jick
<b>NEJS 171a. The Shtetl</b>	This course will consider: (a) the life-style, belief-system of the Jewish market-town, or <i>shtetl</i> , in Eastern Europe; (b) the transformation and crisis of the <i>shtetl</i> in the twentieth century; (c) images of the <i>shtetl</i> in the works of great Yiddish authors (Mendele, Sholem Aleichem, Peretz, Asch).	Usually offered every odd year.	Mr. Fishman
<b>NEJS 171b. Trends and Values in Yiddish Literature</b>	A study (in English) of the major lines of development in the classical period of Yiddish literature: the works of Sholem Aleichem, Mendele and I. L. Peretz.	Usually offered in odd years.	Mr. Fishman
<b>NEJS 174b. <i>Pirkei Avot — The Sayings of the Fathers: In Its Historical Setting</i></b>	This rabbinic text will be subjected to an historical analysis based upon the intellectual situation in Palestine in the early centuries of the Common Era. The classical commentaries plus modern scholars such as Albeck, Dimur, Finkelstein, Goldin, Saldarini, Taylor, et al., will be consulted.	Usually offered every fourth year.	Mr. Kimelman
<b>NEJS 175a. History of Zionism</b>	The rise and development of the Zionist idea, Zionist parties, Zionist politics and Zionist diplomacy in relation to Jewish history and international affairs from 1880 to 1950. Zionism today.	Usually offered every fourth year.	Mr. Reinhartz

<b>NEJS 176a. Judaism and Christianity in the First Centuries</b>	<p>An analysis of the similarities and differences between Judaism and Christianity in the classical period. Emphasis will be placed on the social and religious situation of the times. Major themes such as the nature of religious communities, polemics, the nature of man, law, sin, atonement, redemption and messianism will be explored. Both classical documents and modern scholars will be read. The course will be taught jointly by a professor of classical Judaism and a professor of classical Christianity.</p>	<b>NEJS 203a. Biblical Historiography</b>	<p>An examination of representative types of historical writings in the Bible and their relationship to ancient events and to political and religious ideologies. The problems of writing modern histories of ancient Israel will also be explored.</p>
	<p>Usually offered every fourth year.</p>		<p>Prerequisite: reading knowledge of Biblical Hebrew.</p>
	<p>Mr. Kimelman</p>		<p>Usually offered every third year.</p>
<b>NEJS 177a. Agnon and His Contemporaries: Hebrew Literature in Translation</b>	<p>Usually offered every third year.</p>	<b>NEJS 203b. Bible and Ancient Near East Studies</b>	<p>Ongoing seminar examining the major works in modern biblical and ancient Near Eastern studies, with special focus on methodology and trends of research.</p>
	<p>Staff</p>		<p>Usually offered every year.</p>
			<p>Mr. Brettler</p>
<b>NEJS 182a. Introduction to Jewish Bibliography</b>	<p>The aim of the course is to acquaint students in the various fields of Judaic studies with the general bibliographic tools and the bibliographies in the major sub-fields. This course will concentrate on general Judaica/Hebraica bibliographies and on subject bibliographies in such fields as Jewish history, Jewish philosophy, Hebrew language and literature, antisemitism, Holocaust studies, etc.</p>	<b>NEJS 204a. Historical Grammar of the Hebrew Language</b>	<p>Usually offered in odd years.</p>
	<p>Usually offered every semester.</p>		<p>Mr. Goshen-Gottstein</p>
	<p>Mr. Cutter</p>		
<b>NEJS 187b. Biblical Images, Motifs and Ideas in Modern Hebrew Poetry</b>	<p>The Bible has been a constant and influential presence not only in liturgical poetry but as well in modern secular poetry. The course will examine the changing impact of the Bible in the works of Chaim Nachman Bialik, Shaul Tchernikovsky, Avraham Shlonsky, Uri Zvi Greenberg, Chaim Gouri, Yehuda Amichai, Natan Zach and others.</p>	<b>NEJS 204b. Biblical Textual Criticism</b>	<p>Usually offered in odd years.</p>
	<p>Usually offered every fourth year.</p>		<p>Mr. Goshen-Gottstein</p>
	<p>Ms. Ramras-Rauch</p>		
<b>NEJS 201a. Genesis</b>	<p>An examination of the Hebrew text of Genesis in relation to the methodologies of modern biblical scholarship. Particular attention to source criticism, form criticism and the text in its ancient environment.</p>	<b>NEJS 206a. Advanced Akkadian: Literary Texts</b>	<p>Usually offered every third year.</p>
	<p>Usually offered every third year.</p>		<p>Mr. Abusch</p>
	<p>Mr. Brettler</p>		
<b>NEJS 202a. Seminar in Biblical Religion: Anthropomorphism</b>	<p>An advanced seminar dealing with selected themes and topics in biblical religion, with comparative reference to other ancient Near Eastern religions.</p>	<b>NEJS 206b. Advanced Akkadian: Literary Texts</b>	<p>Usually offered every third year.</p>
	<p>Usually offered every year.</p>		<p>Mr. Abusch</p>
	<p>Mr. Fishbane</p>		
<b>NEJS 203b. Advanced Akkadian: Religious Texts</b>	<p>Usually offered every third year.</p>	<b>NEJS 207a. Advanced Akkadian: Religious Texts</b>	<p>Usually offered every third year.</p>
			<p>Mr. Abusch</p>
<b>NEJS 208a. Advanced Akkadian: Historical Texts</b>	<p>Usually offered every third year.</p>	<b>NEJS 208b. Advanced Sumerian: Literary and Religious Texts</b>	<p>Usually offered every third year.</p>
			<p>Mr. Abusch</p>
<b>NEJS 209a. Advanced Sumerian: Literary and Religious Texts</b>	<p>Usually offered every third year.</p>	<b>NEJS 209b. Advanced Sumerian: Literary and Religious Texts</b>	<p>Usually offered every year.</p>
			<p>Mr. Abusch</p>
<b>NEJS 210a. Seminar on the Institutional Development of the American Jewish Community</b>	<p>Usually offered every year.</p>	<b>NEJS 210a. Seminar on the Institutional Development of the American Jewish Community</b>	<p>Usually offered every year.</p>
			<p>Mr. Jick</p>

NEJS 210b. <b>Jewish Communal Service: Historical and Philosophical Antecedents</b>	An examination of changing ideological and philosophical positions relating to the development of the American Jewish community and the profession of Jewish communal service.  Usually offered every year.  Mr. Jick	NEJS 259b. <b>Topics on Zionism</b>	Usually offered every third year.  Mr. Reinhartz
NEJS 215b. <b>Topics in American Jewish Communal Organization</b>	Usually offered every third year.  Mr. Sklare	NEJS 260a. <b>Seminar on the Philosophical Foundations of Jewish Ethics: Ancient and Medieval</b>	Usually offered every fourth year.  Mr. Fox
NEJS 225b. <b>Northwest Semitic Inscriptions I</b>	A careful reading of Hebrew, Edomite and Moabite inscriptions from the First Temple period. Issues of epigraphy, historical grammar, dialectology and historical reconstruction will be examined.  Usually offered every three years.  Mr. Brettler	NEJS 260b. <b>Seminar on the Philosophical Foundations of Jewish Ethics: Modern</b>	Usually offered every fourth year.  Mr. Fox
NEJS 230a. <b>Seminar in Medieval Jewish Philosophy</b>	Maimonides and contemporary criticism.  Usually offered every year.  Mr. Ivry	NEJS 264a. <b>Seminar: Rabbinic Theology:</b>	A study of the various methodologies used to study the thought of the rabbis of the Talmud and Midrash. The seminar will focus on the methods used by scholars up to and including Ephraim Urbach and then will turn to those methods which call for alternative ways of ascertaining rabbinic thought.  Usually offered every fourth year.  Mr. Kimelman
NEJS 230b. <b>Seminar in Medieval Jewish Philosophy</b>	A continuation of NEJS 230a.  Usually offered every year.  Mr. Ivry	NEJS 287b. <b>Methods in Jewish Community Research</b>	See JCS 287b.  Usually offered every year.  Mr. Tobin
NEJS 232b. <b>Seminar in Modern Jewish Philosophy</b>	Usually offered in even years.  Mr. Fox	NEJS 317-340. <b>Reading Courses</b>	Special tutorials for advanced graduate students.
NEJS 234b. <b>Seminar in Late Medieval Jewish Philosophy</b>	Usually offered every third year.  Mr. Ivry	317a and b. <b>Readings in Assyriology</b>	Mr. Abusch
NEJS 244b. <b>Seminar on Religion and Nationalism in the Middle East</b>	Usually offered every third year.  Mr. Levy	318a and b. <b>Readings in Medieval Jewish Philosophy</b>	Mr. Ivry
NEJS 252b. <b>Hasidism and Its Opponents</b>	The rise of Hasidism and the ensuing religious conflict between Hasidism and Mitnagdim. The focus will be on the interplay between theological, philosophic and halakhic points of contention and social, political and historical factors. Reading knowledge of Hebrew required.  Usually offered in odd years.  Mr. Fishman	319a and b. <b>Readings in Judaeo-Arabic Literature</b>	Mr. Ivry
NEJS 258b. <b>Seminar on Modern Jewish History and Historiography</b>	Usually offered in even years.  Mr. Reinhartz	320a and b. <b>Readings in Islamic Philosophy</b>	Mr. Ivry
		321a and b. <b>Readings in Medieval Jewish Philosophy</b>	Mr. Fox
		322a and b. <b>Readings in Modern Jewish Philosophy</b>	Mr. Fox
		323a and b. <b>Readings in Jewish Thought</b>	Mr. Fox
		324a and b. <b>Readings in Hebrew</b>	Ms. Nevo-Hacohen

326a and b. <b>Readings in Biblical Literature</b>	Mr. Fishbane	337a and b. <b>Readings in Talmudic and Midrashic Literature</b>	Mr. Kimelman
328a and b. <b>Readings in Ancient Near Eastern Languages</b>	Mr. Young	338a and b. <b>Readings in Second Commonwealth and Hellenistic Judaism</b>	Mr. Katchen
330a and b. <b>Readings in the Sociology of the Jewish Community</b>	Mr. Sklare	339a and b. <b>Readings in Ottoman History and Civilization</b>	Mr. Levy
331a and b. <b>Readings in Yiddish Literature</b>	Mr. Fishman	340a and b. <b>Readings in Modern Middle Eastern History</b>	Mr. Levy
332a and b. <b>Readings in American Jewish History</b>	Mr. Jick	NEJS +01d-+11d. <b>Dissertation Colloquium</b>	Independent research for the Ph.D. degree.
333a and b. <b>Readings in the History of the Jews in Europe to 1800</b>	Mr. Ravid	+01d. Mr. Abusch +02d. Mr. Fox +03d. Mr. Ivy +04d. Mr. Reinhartz +06d. Mr. Sklare	+07d. Mr. Young +08d. Mr. Jick +09d. Mr. Fishbane +10d. Mr. Ravid +11d. Mr. Levy
334a and b. <b>Readings in Modern Jewish History</b>	Mr. Reinhartz		
335a and b. <b>Readings in East European Jewish History</b>	Staff		

# The Hornstein Program in Jewish Communal Service

## Objectives

The two-year program in Jewish communal service, leading to the Master of Arts degree, integrates Jewish studies and professional training, preparing students for positions in a variety of settings in the Jewish community, including federations, community centers, Hillel foundations, schools and other communal organizations.

A special one-year master's program is offered for students with graduate degrees in social work or Jewish studies. In addition, part-time study is permitted, but students must complete the program in no more than four years.

## Admission

The general requirements for admission to the Graduate School, as specified in an earlier section of this catalog, apply to candidates for admission to the Hornstein Program in Jewish Communal Service. In addition, applicants are expected to submit results of either the Graduate Record Examination or the Miller Analogies Test, a statement which describes the applicant's Jewish training and background and future plans, and a sample of written material. Applicants are expected to arrange for a personal interview.

## Faculty

**Professor Bernard Reisman,**  
Director:  
American Jewish  
communal studies.

**Professor Marvin Fox:**  
Jewish philosophy.  
Rabbinic thought.  
Modern Jewish  
thought.

**Professor Leon A. Jick:**  
American Jewish  
history.

**Professor Marshall Sklare:**  
Sociology of the  
Jewish community.

**Associate Professor Reuven Kimelman:**  
Talmud and rabbinic  
literature.

**Associate Professor Gary A. Tobin:**  
Jewish community  
planning and research.

**Assistant Professor Joseph Reimer:**  
Contemporary  
Judaism. Jewish  
identity.

**Lecturer with rank of Assistant Professor Gerald Showstack:**  
Jewish education.

**Lecturer with rank of Assistant Professor Lois G. Swack:**  
Field work. Jewish  
communal service.

**Lecturer Susan Shevitz:**  
Jewish education.

See the Department of  
Near Eastern and  
Judaic Studies and the  
Heller School catalog  
for other faculty and  
course offerings.

## Degree Requirements

### Master of Arts

Students in the Jewish communal service program may concentrate in one of the following three areas:

1. Group Work and Community Organization.
2. Management.
3. Jewish Education.

### Program of Study.

Students are expected to complete a minimum of 14 courses, including study in the following areas: professional studies, contemporary Jewish studies and classical Jewish studies. Students may take courses at other Boston area graduate schools (Boston University and Boston College).

During intersession between the first and second terms of the first year, first-year students are expected to participate in 1) the **Betty Starr Colloquium on National Jewish Communal Organizations**, a two-day field trip for first-year students to visit national offices and meet with the staffs of major Jewish communal organizations in New York City, in order to examine their activities and roles in the American Jewish communal system; all students will participate in 2) the **Summer N. Milender Seminar in Jewish Communal Leadership**, led by a prominent leader in

Jewish communal service for several days of discussion and workshops on campus on aspects of Jewish communal leadership; and 3) **Management and Social Work Modules**, one week mini-courses dealing with specific practical skills and issues on an intensive basis. These are offered by the Management of Human Services Program of the Heller School and other area schools of social work. All Jewish Communal Service concentrators are required to take one management module in the second year.

The residence requirement for this program is two years of full-time study or the equivalent in part-time study.

Fluency in Hebrew is required at a level comparable to two years of college training. Students not meeting this requirement upon entrance are required to enroll in courses in Hebrew language — **not for credit**.

### Residence Requirement.

### Language Requirement.

### Summer Study in Israel.

**Joseph and Esther Foster Seminar in Israel on Contemporary Jewish Life** is sponsored in cooperation with the Center for Jewish Education in the Diaspora of the Hebrew University and is required of all students at the completion of their first year of study. The four week program, held during May and June, is a combination of classes and field visits designed to provide an in-depth analysis of Israel. Costs for the Israel Seminar are partially subsidized by scholarships provided by the Joseph and Esther Foster Fund. Students are expected to pay the remainder of the cost.

<b>Fieldwork/Internship.</b>	Students have two fieldwork experiences in a Boston area-Jewish educational or communal service organization. In the first year, fieldwork is 15 hours a week; in the second year, 20 hours. This schedule requires students to be in residence through the end of May and to plan for a shorter winter intersession than indicated in the University's Academic Calendar.	<b>Substantive Paper.</b>	Students are required, during the second year, to submit a major substantive paper growing out of some phase of their fieldwork experience. The paper should analyze a practical issue in Jewish communal service in light of both the student's own experience and the relevant literature.
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## Courses of Instruction

<b>JCS 53b. Introduction to Talmud</b>	See NEJS 53b.  Usually offered every year.  Mr. Kinelman	<b>JCS 142a. An Introduction to Post-Biblical Jewish History</b>	See NEJS 142a.  Usually offered in odd years.  Mr. Ravid
<b>JCS 119b. Curriculum/ Philosophy of Jewish Education</b>	Usually offered in odd years.  Mr. Reimer	<b>JCS 157a. History of Israel, 1948-Present</b>	See NEJS 157a.  Usually offered in even years.  Mr. Reinharz
<b>JCS 120b. Intermediate Talmud</b>	See NEJS 120b.  Usually offered every year.  Mr. Kinelman	<b>JCS 161a. American Jewish Life</b>	See NEJS 161a.  Usually offered every year.  Mr. Sklare
<b>JCS 121a. Jewish Education in America</b>	This introductory course examines how the Jewish community is organized to provide voluntary education in an open society. Types of Jewish schooling, organizational structures, functions of Jewish education and its communal dimensions will be explored with special attention given to the emergence of new educational settings, demographic shifts, outreach to different populations and the effects of trends in American society.  Usually offered in even years.  Staff	<b>JCS 164b. The Sociology of the American Jew</b>	See NEJS 164b.  Usually offered every year.  Mr. Sklare
<b>JCS 122a. Jewish Educational Curriculum</b>	An introduction to the field of curriculum. A survey of selected existing curriculum. Supervised practice in writing curriculum for formal and informal settings.  Usually offered in even years.  Mr. Reimer	<b>JCS 168a. East European Jewry to 1815</b>	See NEJS 168a.  Usually offered every year.  Mr. Fishman
<b>JCS 124a. Great Ages and Ideas of the Jewish People</b>	See NEJS 1a.  Usually offered every year.  Mr. Kinelman	<b>JCS 202b. Jewish Life Cycle</b>	Bringing to bear the insights of developmental psychology on the life cycle of American Jews, the course will be divided into the periods of childhood, adolescence and adulthood. Course topics will include: children's cognitive, social and moral development, transitions to adolescence, formation of identity and intimacy, stages of adulthood and development of faith in adults. Practical applications to be considered.  Usually offered in odd years.  Mr. Reimer
<b>JCS 132b. The Literary Study of Midrash</b>	See NEJS 132b.  Usually offered every year.  Mr. Fishbane		

JCS 203b. <b>Jewish Family Education</b>	A course designed to promote thinking about serving families; how schools and agencies can move beyond serving individuals alone to encompass the family as a cross-generational unit. The course will include an introduction to the psychology of family life, a survey of recent trends in American Jewish family life and a consideration of programs in family education.	JCS 213b. <b>Jewish Traditions in Communal Service</b>	An examination of the role which traditional Jewish values and practices can play in shaping the perspectives of Jewish communal professionals. Emphasis will be on increasing familiarity with Jewish concepts and practices and knowing how they may be used to enhance the meaning of one's work.
	Usually offered in odd years.		Usually offered in even years.
	Mr. Reimer		Mr. Reimer
JCS 205a. <b>Introduction to Jewish Communal Service</b>	History of Jewish communal services in America, the organizational settings in which Jewish services are offered, the factors making for effective group and organizational performance and essence of professionalism.	JCS 217h. <b>Ethnicity and Religion in Israel</b>	This course focuses on two persistent and critical issues basic to an understanding of Israeli society: ethnicity and religion. Additional topics, such as politics, which have a direct bearing on issues of religion and ethnicity in Israel are also treated, and the implications of these matters for Israel-diaspora relations is examined.
	Usually offered every year.		Usually offered every year.
	Mr. Reisman		Mr. Showstack
JCS 205b. <b>Theory and Skills of Jewish Communal Service</b>	A systematic approach to professional leadership in Jewish communal organizations; analysis of contemporary societal developments which affect Jewish individuals and families; new programs and policies to meet changing needs.	JCS 218a. <b>Modern Jewish American Writers</b>	Writers such as I. B. Singer, Cahan, Henry Roth, Bellow, Malamud, Philip Roth, Ozick, Tillie Olsen and Weisel present a panorama of Jewish life from immigration through contemporary times. We will explore topics such as tensions between Jewish tradition and secular America and transformations in individual and family values as expressed through contemporary fiction.
	Usually offered every year.		Usually offered in odd years.
	Mr. Reisman		Ms. Fishman
JCS 206b. <b>Informal Education and Small Groups</b>	This course has two components: 1) principles of informal, experiential education for Jewish communal work and 2) small group dynamics — leadership, group process, individual dynamics and self-awareness of the participants as it relates to group leadership roles in Jewish communal life.	JCS 220b. <b>Jewish Community Relations</b>	An introduction to the field of Jewish community relations in the United States including: a view of the development of modern Jewish defense organizations; an analysis of American Jewish community relations organizations and their constituencies; an examination of issues addressed and methods used by community relations agencies; and an introduction to professional methods in community organization.
	Usually offered every year.		Usually offered in odd years.
	Mr. Reisman		Mr. Sternberg
JCS 210a. <b>Seminar on Institutional Development of the American Jewish Community</b>	See NEJS 210a.	JCS 235a. <b>Seminar: The Culture of Jewish Educational Settings</b>	This seminar will examine unique aspects of Jewish educational settings. It will help participants develop an understanding of the culture of the setting in which their field work takes place and will explore the ramifications of the different organizational cultures on the ongoing work of the Jewish educator. Issues such as roles, expectations, ideology, values and theories will be raised.
	Usually offered every year.		Usually offered in even years.
	Mr. Jick		Ms. Shevitz
JCS 210b. <b>Jewish Communal Service: Historical and Philosophical Antecedents</b>	An examination of changing ideological and philosophical positions relating to the development of the American Jewish community and the profession of Jewish service.		
	Usually offered every year.		
	Mr. Jick		

<b>JCS 235b. Issues in Jewish Educational Practice</b>	This biweekly seminar will examine issues confronting Jewish educators in their work. Topics to be explored will emerge from students' interests and field work experiences. Theoretical and practical considerations will be brought to bear on each topic. The relationship between theory and practice and how these relate to educational goals and agendas will be considered.	<b>JCS 250d. Professional Integrative Seminar</b>	The seminar seeks to develop a common theoretical base for Jewish communal professionals who will be working in Jewish educational and communal settings. The theory will be applied to a series of practical professional tasks with the objective of enriching professional skills. The seminar meets biweekly.
	Usually offered in even years.		Usually offered every year.
	Ms. Shevitz		Ms. Shevitz, Ms. Swack, Mr. Reisman
<b>JCS 236c. Practicum: Teaching in a Jewish Setting</b>	This practicum applies to learning theory, pedagogic principles and research about effective teaching and schools to the challenges of working in Jewish educational settings. Through readings, structured observations of teachers, visits to different classes and a micro-teaching laboratory, students gain awareness of the art and science of teaching while developing their own teaching abilities.	<b>JCS 287b. Methods in Jewish Community Research</b>	This seminar will acquaint both researchers and pre-professionals in Jewish communal service with basic research techniques via "hands-on" experience conducting research for Center for Modern Jewish Studies projects, or by developing other projects based on scholarly interest/field placements. The course includes readings on methods and planning applications in Jewish communal agencies.
	Usually offered every year.		Usually offered every year.
	Ms. Shevitz		Mr. Tobin
<b>JCS 248d. Methods in Jewish Communal Service</b>	Students are placed in selected Jewish communal organizations during the first year for two days a week of field practice. They receive individual supervision from an agency field supervisor. The seminar meets weekly during the first semester and focuses on work with groups, professional development and Jewish community resources and services. During the second semester, the seminar meets biweekly. Students are responsible for individual presentations concerning their field work experiences.	<b>JCS-SS 350. Foster Seminar in Israel on Contemporary Jewish Issues</b>	Offered in cooperation with the Center for Jewish Education in the Diaspora at The Hebrew University.
	Usually offered every year.		
	Ms. Swack		

# Physics

## Objectives

The graduate program in physics is designed to equip students with a broad understanding of major fields of physics and to train them to carry out independent, original research. This objective is to be attained by formal course work and supervised research projects. As the number of students who are accepted is limited, a close contact between students and faculty is maintained, permitting close supervision and guidance of each student.

Advanced degrees will be granted upon evidence of the student's knowledge, understanding and proficiency in classical and modern physics. The satisfactory completion of advanced courses will constitute partial fulfillment of these requirements. Research upon which theses may be based, with residence at Brandeis, may be carried out in the following areas.

### Theoretical Physics:

Quantum theory of fields; elementary particle physics; relativity; supergravity, string theory; quantum statistical mechanics; thermodynamics of irreversible processes; quantum theory of the solid state, critical phenomena and phase transitions.

### Experimental Physics:

High energy experimental physics; atomic and molecular physics; solid state physics; nuclear magnetic resonance; phase transition phenomena; liquid crystal physics; light scattering; positron physics; radio astronomy; biophysical structure analysis.

## Admission

As a rule, only candidates for the Ph.D. degree will be accepted. The general requirements for admission to the Graduate School apply to candidates for admission to the graduate area in physics. Admission to advanced courses in physics will be granted following a conference with the student at entrance.

## Faculty

**Professor Lawrence E. Kirsch,**  
Chair:  
High energy  
experimental physics.

**Professor Stephan Berko:**  
Experimental solid  
state physics. Positron  
interactions in solids.  
Positronium physics.

**Professor Donald L. D. Caspar**  
(Rosenstiel Basic  
Medical Sciences  
Research Center):  
Structural molecular  
biology. X-ray  
crystallography.

**Professor Stanley A. Deser:**  
Quantum theory of  
fields. Elementary  
particles. Gravitation.  
Supergravity.

**Professor Jack S. Goldstein:**  
Astrophysics, Science  
and public policy.

**Professor Marcus T. Grisaru:**  
Quantum field theory.  
Elementary particles.  
Supergravity.

**Professor Eugene P. Gross:**  
Quantum theory of  
multiparticle systems.  
Quantum theory of  
solids. Kinetic theory.  
Plasma physics.

**Professor Peter Heller:**  
Statistical physics.  
Spin systems.

**Professor Robert B. Meyer:**  
Liquid crystals.  
Colloids. Polymers.

**Professor Hugh N. Pendleton:**  
Mathematical physics.  
Supergravity.

**Professor Alfred G. Redfield**  
(Rosenstiel Basic  
Medical Sciences  
Research Center):  
Magnetic resonance.  
Biophysics.

**Professor Howard J. Schnitzer:**  
Elementary particle  
theory. Quantum  
theory of fields. String  
theory.

**Professor Silvan S. Schweber:**  
History and  
philosophy of science.  
Quantum theory of  
measurements.

**Professor John F. C. Wardle:**  
Radio astronomy.  
Cosmology.

**Associate Professor Laurence F. Abbott:**  
Elementary particle  
theory. Quantum  
theory of fields.

**Associate Professor James R. Bensinger:**  
Experimental high  
energy physics.

**Associate Professor Craig A. Blocker:**  
Experimental high  
energy physics.

**Associate Professor Karl F. Canter:**  
Experimental low  
energy positron  
physics at surfaces  
and disordered  
systems.

**Associate Professor Robert V. Lange:**  
Educational software.

**Associate Professor David H. Roberts:**  
Theoretical  
astrophysics. Radio  
astronomy.

**Associate Professor Hermann F.**  
**Wellenstein:**  
Experimental atomic  
physics. Electronic  
impact spectroscopy.

**Associate Professor Rudolph**  
**Oldenbourg:**  
Physics of liquid  
crystals and biological  
materials.

**Assistant Professor Leigh Sneddon:**  
Theoretical solid state  
physics.

**Assistant Professor Eric S. Jensen:**  
Experimental solid  
state physics.

**Assistant Professor Takashi Odagaki:**  
Theoretical solid state  
physics.

**Assistant Professor Rudolph**  
**Oldenbourg:**  
Physics of liquid  
crystals and biological  
materials.

**Assistant Professor Leigh Sneddon:**  
Theoretical solid state  
physics.

**Degree Requirements****Master of Arts****Program of Study.**

The requirements for advanced degrees in the Department of Physics are as follows:

1. One year in residence as a full-time student.
2. Six semester courses of advanced work in physics. A thesis on an approved topic may be accepted in place of a semester course.
3. Satisfactory performance in the Qualifying Examination.

**Doctor of Philosophy**

1. Two years in residence as a full-time student.

2. Nine semester courses of advanced work in physics.

3. Outstanding performance on the Qualifying Examination.

4. Passing of an advanced examination in topics related to the student's thesis subject. This examination will normally be taken after preparatory studies in the prospective field of research.

5. Doctoral thesis and final oral examination.

**Program of Study and Course Requirements.**

Normally, first-year graduate students will elect from the 100 series; second-year students from the 200 series. To obtain credit toward residence for a graduate course taken at Brandeis, a student must achieve a final grade of "B-" or better in that course. Students may obtain credit for advanced courses taken at another institution provided their level corresponds to the level of graduate courses at Brandeis and that an honor grade in these courses was obtained.

**Residence Requirement.**

A student may obtain up to one year's residence credit toward the Ph.D. requirements for graduate studies taken at another institution. No transfer residence credit will be allowed toward fulfillment of the master's requirements.

**Teaching.**

It is expected that all graduate students will do some undergraduate teaching during the course of their studies.

**Language Requirement.**

There is no foreign language requirement for either the master's or the doctoral degrees.

**Qualifying Examination.**

In the first year, Quantum Mechanics (Physics 102) and Electromagnetic Theory (Physics 101) must be taken by all students unless they are exempted. All students, whether exempted or not, must take the final examinations in these courses (both fall and spring semesters), which also serve as the qualifying examination although the course itself is not required. An oral examination given at the end of the first year completes the qualification requirements.

**Course Requirements.**

At least two graduate courses, with final examinations in the specialized courses listed below, must be taken during the first three semesters: (1) Statistical Physics, (2) Solid State Physics, (3) Biophysics, (4) Elementary Particles, (5) Astrophysics, (6) Experimental Physics (Physics 109), (7) General Relativity. Note, however, that not all of the above courses will necessarily be given each year.

One semester of Advanced Quantum Mechanics (Physics 202a) will be a required course for all students.

**Advanced Examinations.**

Advanced examinations will be in topics partitioned in the several areas of research interests of the faculty. Faculty members working in each general area will function as a committee for this purpose and will provide information about their work through informal discussions and seminars. The advanced examination requirement consists of a written paper and an oral examination. While no original research by the student is expected, it is hoped that a proposal for a possible thesis topic will emerge. It is generally expected that the candidates will take the advanced examination in the field they wish to pursue for the Ph.D. theses, although there may be exceptions.

**Thesis Research.**

After passing the advanced examination, the student begins work with an advisor who guides his or her research program. The advisor should be a member of the Brandeis faculty but in special circumstances may be a physicist associated with another research institution. The graduate committee of the physics faculty will appoint a dissertation committee to supervise the student's research. The student's dissertation advisor will be the chair of the dissertation committee. The committee will recommend the student for admission to candidacy for the doctorate on recommendation of his or her advisor.

**Dissertation and Final Oral Examination.**

The doctoral dissertation must represent a piece of research of a standard acceptable to the faculty committee appointed for each Ph.D. candidate. The final oral examination, or defense, is an examination in which the student will be asked questions pertaining to the dissertation research.

## Courses of Instruction

Physics 100a. <b>Advanced Classical Mechanics</b>	Usually offered every third year. Staff	Physics 107a. <b>Experimental Particle Physics</b>	The principles upon which experimental atomic, nuclear and particle physics are based. Subjects discussed include: relativistic kinematics, interactions of energetic particles in matter, accelerators and beams, particle detectors and computer-based analysis techniques.
Physics 101a. <b>Electromagnetic Theory I</b>	Electrostatics, magnetostatics, boundary value problems. Usually offered every year. Mr. Schnitzer		Usually offered in odd years. Mr. Blocker
Physics 101b. <b>Electromagnetic Theory II</b>	Maxwell's equations. Quasi-stationary phenomena. Radiation. Usually offered every year. Mr. Schnitzer	Physics 107b. <b>Particle Physics</b>	The phenomenology of elementary particles, strong, weak and electromagnetic interactions. Topics include properties of particles, kinematics and quantum mechanics of scattering and decay, phase space, quark model, unitarity symmetries and conversion laws.
Physics 102a. <b>Quantum Mechanics I</b>	Nonrelativistic quantum theory and its application to simple systems; the harmonic oscillator, the hydrogen atom. Perturbation theory. Usually offered every year. Mr. Gross		Usually offered in even years. Mr. Blocker
Physics 102b. <b>Quantum Mechanics II</b>	Systems of identical particles. Coupling of angular momenta. Scattering theory. Time-dependent perturbation theory. Semi-classical analysis of interaction of atomic systems and electromagnetic waves. Usually offered every year. Mr. Gross	Physics 108b. <b>Introduction to Astrophysics</b>	Usually offered every third year. Staff
Physics 103a. <b>Statistical Physics</b>	Review of thermodynamics and probability theory. Statistical postulates and ensembles. Behavior of non-ideal gases. Correlation functions, fluctuation theorems, Wiener-Khintchine theorem, generalized Nyquist relations. Mean-field theories of phase transitions; effect of fluctuations. Usually offered every year. Mr. Odagaki	Physics 109a. <b>Advanced Laboratory I</b>	Methods and techniques of experimental research. Usually offered every year. Mr. Redfield
Physics 104a. <b>Solid State Physics I</b>	The formal description of periodic systems. The vibrational and electronic properties of solids. Band structure and the Fermi surface. The transport and optical properties of solids. Usually offered every year. Mr. Berko	Physics 109b. <b>Advanced Laboratory II</b>	Methods and techniques of experimental research. Usually offered every year. Mr. Blocker
Physics 104b. <b>Solid State Physics II</b>	Thermal, electric and magnetic properties of solids. Lattice vibrations. Specific heat. Structural probes. Fermi surfaces. Selected topics in superconductivity and ferromagnetism. Usually offered every year. Mr. Berko	Physics 110a. <b>Mathematical Physics</b>	Complex variables; Fourier and Laplace transforms; special functions, partial differential equations; Hilbert space and spectral theory. Usually offered every third year. Staff
		Physics 113a. <b>First Year Tutorial I</b>	A review of physics from the most elementary topics to those treated in other first-year graduate courses. The environment for an oral qualifying examination is reproduced in the tutorial. Usually offered every year.
		Physics 113b. <b>First Year Tutorial II</b>	A continuation of Physics 113a. Usually offered every year. Mr. Pendleton

<b>Physics 137a. Science in the Nineteenth Century</b>	Usually offered every third year. Staff	<b>Physics 210a. Theoretical Seminar I</b>	Analysis of important recent developments in theoretical physics. Usually offered every year.
<b>Physics 137b. Twentieth-Century Physics</b>	The course will explore developments in physics during the twentieth century from a historical perspective paying particular attention to the wider context in which these advances took place.  Usually offered every third year.  Mr. Schweher	<b>Physics 210b. Particle Seminar II</b>	Messrs. Schnitzer, Abbott and Grisaru  A continuation of Physics 210a. Usually offered every year. Messrs. Schnitzer, Abbott and Grisaru
<b>Physics 152b. Biological Assembly</b>	Physical principles in the construction of biological structures: forces, equilibria, symmetry and control mechanisms. Analysis of the structure and assembly of viruses, membranes and cellular organelles.  Usually offered every third year.  Mr. Casper	<b>Physics 211a. Computational Physics</b>	Numerical differentiation and integration. Curve fittings. Numerical solution of elliptic, parabolic and hyperbolic differential equations. Molecular dynamics. Monte Carlo simulation. Monte Carlo renormalization group technique.  Usually offered in odd years.  Mr. Odagaki
<b>Physics 200a. General Relativity I</b>	Introduction to current research and problems in gravitational physics. Physical and mathematical background will be provided as needed, but emphasis will be on recent literature. Active participation by students in discussing the latter will be expected.  Usually offered every third year.  Mr. Deser	<b>Physics 212a. Condensed Matter Seminar I</b>	Analysis of important recent developments in condensed matter physics. Usually offered every year. Mr. Odagaki
<b>Physics 200b. General Relativity II</b>	Usually offered every third year. Staff	<b>Physics 212b. Condensed Matter Seminar II</b>	A continuation of Physics 212a. Usually offered in even years. Mr. Odagaki
<b>Physics 202a. Quantum Mechanics III</b>	Nonrelativistic field theory and relativistic quantum mechanics. Graphical version of time-dependent perturbation theory. Application of group theory to quantum mechanics.  Usually offered every year.  Mr. Grisaru	<b>Physics 213a. Tutorial in Physics I</b>	Usually offered every year. Staff
<b>Physics 202b. Quantum Fields</b>	Usually offered every third year. Staff	<b>Physics 213b. Tutorial in Physics II</b>	Usually offered every year. Staff
<b>Physics 204a. Condensed Matter Theory I</b>	Usually offered in odd years. Mr. Gross	<b>Physics 2+0b. Biophysical Research</b>	See Biophysics 200b. Usually offered every year. Mr. Caspar
<b>Physics 204b. Condensed Matter II</b>	Usually offered in odd years. Staff	<b>Physics 301a. Astrophysics Seminar I</b>	Advanced topics and current research in astrophysics will be discussed. Usually offered every year. Mr. Wardle
<b>Physics 207a. Plasma Physics</b>	Usually offered every third year. Staff	<b>Physics 301b. Astrophysics Seminar II</b>	A continuation of Physics 301a. Usually offered every year. Mr. Wardle
<b>Physics 208a. Cosmology</b>	Usually offered every fourth year. Staff		

Physics 302a. <b>Elementary Particles Seminar</b>	Seminar covers latest advances in elementary particle physics. Will include student presentations and invited speakers.  Usually offered every year.  Mr. Blocker	<b>Research Courses</b>  Physics 405d. <b>Experimental Elementary Particle Physics</b> Mr. Blocker
Physics 302b. <b>Particles Seminar</b>	A continuation of Physics 302a.  Usually offered every year.  Mr. Bensinger	Physics 406d. <b>Experimental Elementary Particle Physics</b> Mr. Bensinger
Physics 303a. <b>Positron Physics Seminar I</b>	Seminar covers latest developments in atomic, solid state and surface physics as studied using positron techniques. Will include student presentations and invited speakers.  Usually offered every year.  Mr. Berko	Physics 407d. <b>Experimental Elementary Particle Physics</b> Mr. Kirsch
Physics 303b. <b>Positron Physics Seminar II</b>	A continuation of Physics 303a.  Usually offered every year.  Mr. Canter	Physics 408d. <b>Theoretical Elementary Particle Physics</b> Mr. Abbott
Physics 304a. <b>Solid State Seminar I</b>	Usually offered every third year.  Staff	Physics 409d. <b>Theoretical Elementary Particle Physics</b> Mr. Deser
Physics 305a. <b>Liquid Crystal Physics Seminar</b>	This seminar studies recent advances in the physics of liquid crystals and related systems such as microemulsions, colloidal suspensions and polymer solutions.  Usually offered every year.  Mr. Meyer	Physics 410d. <b>Theoretical Elementary Particle Physics</b> Mr. Grisaru
Physics 305b. <b>Liquid Crystal Physics Seminar II</b>	A continuation of Physics 305a.  Usually offered every year.  Staff	Physics 411d. <b>Theoretical Elementary Particle Physics</b> Mr. Pendleton
Physics 306a. <b>Theoretical Solid State Seminar</b>	Advanced topics and latest developments in theoretical condensed matter physics will be discussed.  Usually offered every year.  Mr. Sneddon	Physics 412d. <b>Theoretical Elementary Particle Physics</b> Mr. Schnitzer
Physics 306b. <b>Random Systems</b>	Usually offered every year.  Mr. Sneddon	Physics 413d. <b>Theoretical Elementary Particle Physics</b> Mr. Schweber
Physics 311a. <b>Mathematical Physics II</b>	The mathematics and physics of the quantum string theory of elementary particles.  Usually offered in odd years.  Mr. Pendleton	Physics 414d. <b>Experimental Solid State Physics</b> Mr. Berko
		Physics 415d. <b>Experimental Solid State Physics</b> Mr. Caspar
		Physics 416d. <b>Statistical Physics</b> Mr. Heller
		Physics 417d. <b>Theoretical Solid State Physics</b> Mr. Sneddon
		Physics 418d. <b>Theoretical Solid State Physics</b> Mr. Gross

Physics 419d. <b>Theoretical Solid State Physics</b>	Mr. Lange	Physics 426d. <b>Astrophysics</b>	Mr. Goldstein
Physics 420d. <b>Experimental Solid State Physics</b>	Mr. Odagaki	Physics 427d. <b>Astrophysics</b>	Mr. Roberts
Physics 421d. <b>Relativity</b>	Mr. Deser	Physics 428d. <b>Astrophysics</b>	Mr. Wardle
Physics 422d. <b>Mathematical Physics</b>	Mr. Grisaru	Physics 429d. <b>Structural Biology</b>	Mr. Casper
Physics 423d. <b>Mathematical Physics</b>	Mr. Schweber	Physics 430d. <b>Experimental Solid State Physics</b>	Mr. Jensen
Physics 424d. <b>Mathematical Physics</b>	Mr. Pendleton	Physics 431d. <b>Experimental Condensed Matter Physics</b>	Mr. Oldenbourg
Physics 425d. <b>Statistical Physics</b>	Mr. Gross	Physics 432d. <b>Experimental Atomic and Molecular Physics</b>	Mr. Wellenstein
		Physics 436d. <b>Biophysics</b>	Mr. Redfield
		Physics 437d. <b>Experimental Condensed Matter Physics</b>	Mr. Meyer

## Politics

<b>Objectives</b>	The graduate program in politics, leading to the degree of Doctor of Philosophy, emphasizes comprehensive professional training by stressing both the fundamentals of the discipline grounded in the study of political thought and institutions and the requirements of method and analytical skills.	<b>Admission</b>	The general requirements for admission to the Graduate School, given in an earlier section of this catalog, apply to candidates for admission to this area of study. Normally, the student's undergraduate training must be in a field of social sciences to be considered for admission to this program. Applicants are expected to take the Graduate Record Examination.
<b>Faculty</b>			
Professor <b>Seyom Brown</b> , Chair: International relations; American foreign policy.	Professor <b>Donald Hindley</b> : Comparative politics; South East Asia; Latin American politics.	Professor <b>Roy C. Macridis</b> : Comparative politics; Western Europe.	Associate Professor <b>Jeffrey B. Abramson</b> : Political theory; Constitutional law.
Professor <b>Robert J. Art</b> : International relations; American foreign policy.	Professor <b>Mark Hullings</b> : Political theory.	Professor <b>Ruth S. Morgenstern</b> : Comparative politics; Africa.	Associate Professor <b>Steven Burg</b> : Comparative politics; U.S.S.R.; Eastern Europe.
	Professor <b>Martin A. Levin</b> : American politics; Urban politics.	Professor <b>Peter Woll</b> : American politics; Administrative law.	Associate Professor <b>Ralph Thaxton</b> : Comparative politics; peasants and revolution.
		Visiting Professor <b>Carol Savetz</b> : Comparative politics. U.S.S.R.	Associate Professor <b>Susan M. Okin</b> : Political theory.

### Degree Requirements

<b>Master of Arts</b>	Normally, no one will be accepted into the program who is not a doctoral candidate. However, the M.A. degree may be awarded upon satisfactory completion of one year of residence with a minimum of six courses, the submission of an approved specimen of graduate-level scholarly writing and either the demonstration of proficiency in a foreign language or satisfactory completion of two semester courses of statistics or satisfactory completion of the scope and methods seminar as described under the Ph.D. research tools requirements below. (Courses taken in language, statistics or scope and methods will not be counted toward the six courses required for the M.A. degree.)	<b>Doctor of Philosophy</b> Students should note certain special features of the program, in particular, (a) instruction in small seminars under close faculty supervision, (b) supervised independent study facilities within the department, (c) supervised teaching assistantships, (d) opportunities for study in the consortium of universities in the Boston area, and (e) the opportunity to incorporate work in related and relevant fields, e.g., economics, anthropology, philosophy. Each student is assigned to a departmental advisor who will help plan a professional and pertinent program of study. A continuity of faculty direction is insured throughout the program with allowance for shifts in curricular interest.
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Program of Study.	<p>The student must complete two years in residence and a minimum of 12 semester courses. Students with an M.A. in political science from other institutions may petition at the end of one year to have their previous graduate courses accepted for Brandeis credit; this may relieve them of as much as a year of residence requirement. (However, they must satisfy all Brandeis requirements: distribution of curriculum, language, etc.) For distribution, each graduate student will be required to take three of the following fields: American Government, Comparative Government, International Relations, Political Theory or two of the above plus a category of study at the graduate level in another department of the University, as shall be judged valid for the student's program by this department.</p> <p>Within each sub-field chosen, students are expected to have a broad knowledge of the major theoretical and analytical approaches, a more intensive familiarity with one or more functional areas of the sub-field and special expertise in particular geographic areas, policy issues and/or historical periods. The requirements for a student majoring in each sub-field are somewhat more extensive than those for a student choosing it as a second or third field. The specific requirements for each sub-field may be obtained from the politics department.</p> <p>The standard work load for full-time students is at least three courses in each semester of their first two years of study. Fourth courses and audits are encouraged, but the load is deliberately set so that the student may supplement his or her regular course work with independently motivated reading and scholarship. Reading courses will not be offered to first-semester students and will be discouraged generally during the first year. By the end of the first year, students should have identified their major and at least one of their minor fields of interest, and should make this known to their advisor and the Graduate Studies Chairman.</p>	Research Paper.	<p>Each second-year graduate student is required to submit a high-quality research paper, which must be approved in its final version by two members of the department (appointed by the graduate advisor in consultation with the student) before the student will be allowed to take the comprehensive Ph.D. qualifying examinations.</p>
Candidacy for the Ph.D.		Candidacy for the Ph.D.	<p>A student may be admitted to candidacy for the Ph.D. degree upon completing the course and research paper requirements, passing the qualifying examination, fulfilling the methodology requirement and obtaining departmental approval of the subject and preliminary precis of the dissertation.</p>
Research Tools Requirement.		Dissertation and Defense.	<p>Normally at the end of the fourth semester or early in the fifth, a formal oral and written examination for candidacy for the Ph.D. will be given covering the student's three fields but with emphasis on the sub-field(s) in which the student has done the most work. Each of the examinations is individual; it responds to the approved program of the student. The written examinations may be taken, upon arrangement, within any four-month period. The orals are taken no later than two weeks after the last written examination. Students are examined orally in their three fields simultaneously.</p>
Teaching Assistantships.	<p>Prior to admission to Ph.D. candidacy, each student is required to: (1) Pass with a graduate grade (B- or above) the politics department's Seminar in Scope and Methods. Credit for this one semester course may be counted toward fulfillment of the Ph.D. course requirements. A similar course taken elsewhere may be used to fulfill this requirement, subject to the approval of the Graduate Committee. (2) Either a. pass a language examination (normally administered within the department) designed to test for a reading knowledge of a foreign language sufficient to conduct doctoral dissertation research, or b. pass with a B- or above an approved two-semester course in statistics.</p> <p>Neither courses taken in conjunction with the language examination nor statistics courses may be counted for course credit toward the Ph.D.</p>	Teaching Assistantships.	<p>However, each student must complete the Ph.D. qualifying examinations by the end of his/her fifth semester in the program, and must submit a dissertation prospectus by the end of the sixth semester. Any extension must be specifically granted by the Graduate Committee.</p> <p>The dissertation will be completed under the supervision of the appropriate member of the departmental faculty. It must be sponsored by a departmental committee of at least two members and have the approval of the graduate committee of the department. It is assumed that the writing of the dissertation will take at least one year and, barring exceptional circumstances, not more than two and one-half years. The student must successfully defend the dissertation at a final oral examination conducted by his or her two departmental supervisors and another professor from outside the department or from another university.</p> <p>As determined by funds and undergraduate enrollments, the department compensates students for teaching assistant work in an amount customarily based on the type and amount or work performed. First-year students do not normally receive teaching assistantships. It is the policy of the department that teaching experience is a normal and necessary part of the graduate training program and that ideally all students should have this opportunity.</p>
Evaluation of First Year.	<p>At the end of each student's first year in the graduate program, there will be a consultation between the student and three members of the department to evaluate the student's academic progress, and to help plan the student's subsequent work.</p>		

## Courses of Instruction

<b>Seminars for Graduate Students</b>		<b>Politics 206a. Seminar: Advanced Topics in American Politics</b>	Usually offered in even years.
Politics 201b. <b>Seminar: Political Research and Analysis</b>	The objective of the course is to provide students with an introduction to research methods and techniques of analysis appropriate for processing and analyzing political data. The emphasis will be on teaching students to understand and critique various methodologies used in political science, including historical/structural analysis, survey research, statistical analysis and formal theory.	Staff	
	The first section of the course will be devoted to some preliminary reflections on the study of politics, particularly the scientific method, ethical and philosophical issues (e.g., a critique of behavioralist and positivist approaches), and the criteria for good theory. The course will also introduce students to the basic concepts and uses of statistics, particularly correlation, regression and problems of causal inference.		An examination of the approaches and concepts in the field of political theory. The central topic for Spring 1988 will be justice.
	Usually offered in even years.		Usually offered in odd years.
	Mr. Hollifield	Ms. Okin	
Politics 203a. <b>Seminar: Comparative Politics</b>	An examination of the approaches, concepts and theories of the field of comparative politics.	Politics 203b. <b>Seminar: Liberty and Equality in American Politics</b>	Examines how competing conceptions of liberty and of equality have affected American political life. Readings include the <b>Federalist Papers</b> , Tocqueville's <b>Democracy in America</b> , the Lincoln-Douglas debates and material on freedom of the press, freedom of religion, desegregation, affirmative action and emergency powers.
	Usually offered in odd years.		Usually offered in even years.
	Mr. Hollifield	Mr. Melnick	
Politics 203b. <b>Seminar: Advanced Topics in Comparative Politics</b>	Usually offered in even years.	Politics 215b. <b>Seminar: Constitutional Law and Theory</b>	An advanced research seminar on selected issues of constitutional law.
	Staff		Usually offered in even years.
Politics 204a. <b>Seminar: International Relations Theory</b>	An examination of the approaches, concepts and theories in the field of international politics.	Mr. Woll	
	Usually offered in odd years.		
	Mr. Brown		
Politics 204b. <b>Seminar: Advanced Topics in International Relations</b>	Usually offered in even years.	Politics 218b. <b>Research Seminar: Voting Behavior</b>	This course provides students with an opportunity to research a topic of interest on voting behavior in the U.S. Attention will be paid to various theories that have been offered to explain voting, as well as the basic empirical methodologies used to investigate political behavior. In consultation with the instructor, each student will undertake the completion of a research project based on a computer analysis of recent elections in the U.S.
	Staff		Usually offered in odd years.
Politics 205a. <b>Seminar: American Politics</b>	An examination of the approaches, concepts and theories in the field of American politics.	Mr. Milkis	
	Usually offered in odd years.		
	Mr. Melnick		
Politics 205b. <b>Seminar: American Politics</b>	An examination of the approaches, concepts and theories in the field of American politics.	Politics 222b. <b>Seminar: Policy Analysis and Policy Implementation</b>	This is a course in political economy — the interface of economics and political science. It uses concepts of economics and political science to develop better analysis of public sector issues in order to ameliorate social problems. It integrates formal techniques of analysis (such as cost-benefit analysis, decision theory, modeling), with a concern for political feasibility and the constraints of implementation, especially those flowing from the nature of organizations. Problem areas will be chosen to illustrate the dual dilemmas in imperfect public interventions.
	Usually offered in even years.		Usually offered every year.
	Mr. Levin	Mr. Levin	

Politics 223a. <b>Seminar:</b> Government, Business and American Politics	This seminar examines the interaction of economics and politics in the American political system. A good deal of emphasis is placed on the politics of regulation, and on the philosophical and historical context in which government-business relations have developed. Using environmental and consumer regulation as examples, the course examines the prospects for regulatory reform, and the effects on the public interest of political efforts to curb the impact of federal intervention in society.	Politics 252a. <b>Seminar: The Political Economy of Advanced Industrial Democracies</b>	The seminar is designed to introduce students to the history and theory of political economy, giving particular attention to the relationship between capitalism, socialism and democracy. We also shall devote considerable time to the study of the development of the political economies of Western Europe and North America since 1945. This study will seek to determine the scope and role of government in the economies of the advanced industrial democracies.
	Usually offered in odd years.		Usually offered every year.
	Mr. Milkis		Mr. Hollifield
Politics 231b. <b>Seminar: Advanced Topics in Soviet Politics—Multi-Nationality in Soviet Politics</b>	This course is intended to provide advanced undergraduate and graduate students with an opportunity to engage in research and discussion of selected issues in Soviet domestic politics or foreign policy.	Politics 254b. <b>Seminar: Comparative Public Policy</b>	The purpose of the seminar is to introduce the student to the basic theories and concepts used in order to compare public policies cross-nationally. An assumption of the seminar is that the analysis is concerned with national systems and less concerned with international systems. Our main concern will be to use policy analyses within systems.
	Usually offered in even year.		Usually offered every third year.
	Mr. Burg		Staff
Politics 247b. <b>Seminar: The Modern Chinese Revolution</b>	This course provides an in-depth exploration of the origins, process and consequences of the modern Chinese revolution. It focuses specifically on Western social science theories and interpretations of the revolution. It also provides a comprehensive perspective on revolution in twentieth-century China and revolutionary movements in other parts of the globe.	Politics 257a. <b>Seminar: Politics and Society in Western Europe</b>	The course treats Western Europe as a case study in political development and as a testing ground for theories of political support and legitimacy. It is designed to deal with three major topics relating to the political development of Western Europe: 1) the transition from feudalism and the creation of the modern capitalist state; 2) the processes of legitimation of the institutional order during and after the industrial revolution; and 3) the accommodation of industrial workers and the rise and fall of class politics.
	Usually offered every year.		Usually offered in even years.
	Mr. Thaxton		Mr. Hollifield
Politics 248a. <b>Seminar:</b> Contemporary Chinese Politics	This course provides a broad and in-depth understanding of key issues in contemporary Chinese politics — China after 1949. It is especially concerned with the role of the state in promoting economic development, social betterment, political stability and justice.	Politics 258a. <b>Seminar: Political Participation</b>	An examination of the major models, or conceptualizations of participation and their ideological or political underpinnings, and an exploration of the variety of actual forms of participation and "regime-type," and attempts to differentiate "participation" from other forms of political behavior, such as "mobilization" or "involvement," and thereby distinguish between "citizens" and "subjects."
	Usually offered every year.		Usually offered in even years.
	Mr. Thaxton		Mr. Burg
Politics 248b. <b>Seminar: Political Institutions</b>	This seminar will introduce the students to the study of major political regimes and their institutions and to the processes of institutionalization. Major political structures — the executive, legislatures, bureaucracies, political parties, will be studied comparatively in democracies, authoritarian and totalitarian regimes. In all cases governmental institutions will be linked with societal forces — particularly interest groups and associations and with levels of modernization. We shall conclude with an effort to "evaluate" regime performance.	Politics 266b. <b>Seminar: Issues in International Political Economy</b>	Selected theories of international relations will be used to analyze current problems in international political economy. Issues such as global debt, Third World development, North-North and North-South economic relations and resource politics will be examined in depth.
	Usually offered in even years.		Usually offered every year.
	Mr. Macridis		Mr. Martin

Politics 269a. <b>Seminar: The Diplomacy of Henry Kissinger</b>	An examination of Henry Kissinger's philosophy and practice of statecraft. Analysis of his historical and policy-prescriptive writings prior to his assumption of office in 1969. Evaluation of his performance in office through a detailed examination of the foreign policies and crises behavior of the Nixon and Ford administrations.	Politics 302-317a and b. <b>Readings in Politics</b>	Offered every year. 302a and b. Mr. Brown 303a and b. Mr. Hindley 305a and b. Mr. Macridis 306a and b. Ms. Morgenthau 307a and b. Mr. Melnick 308a and b. Mr. Woll 309a and b. Mr. Art 310a and b. Mr. Hulliung	311a and b. Mr. Levin 312a and b. Ms. Okin 313a and b. Mr. Abramson 314a and b. Mr. Thaxton 315a and b. Mr. Burg 316a and b. Mr. Hollifield 317a and b. Mr. Milkis	
Politics 274b. <b>Problems of National Security</b>	An analysis of current issues in national security policy through examination of basic theories on the role and utility of force in international relations. Topics covered include nuclear deterrence, force planning and budgeting, arms control, force projection in the Persian gulf, proliferation and the NATO alliance.	Politics 400-416d. <b>Dissertation Research</b>	Independent research for the Ph.D. degree. 400d. Mr. Abramson 402d. Mr. Brown 403d. Mr. Hindley 405d. Mr. Macridis 406d. Ms. Morgenthau 408d. Mr. Woll 409d. Mr. Art	410d. Mr. Hulliung 411d. Mr. Levin 412d. Mr. Burg 413d. Ms. Okin 414d. Mr. Thaxton 415d. Mr. Hollifield 416d. Mr. Milkis	
Politics 279a. <b>Seminar: The Politics of Food Security</b>	Why is there hunger in a world full of grain? Why is economic growth not enough to end famine? What policies promote adequate production and equitable distribution of food supplies? Readings focus on international as well as national attempts to secure access to food at acceptable prices. How food policy affects rise and fall of governments is examined in case studies.	Politics 101a. <b>Parties, Pressure Groups and Public Opinion</b>	Usually offered in odd years. Mr. Milkis	In addition, the following advanced undergraduate courses may be taken for graduate credit. (See College Catalog for descriptions.)	
Politics 286a. <b>Seminar: Political Ideologies</b>	An examination of selected political theories and theorists, and the translation of theories into political movements. Emphasis will be placed on the latter with reference to liberal, Marxist and conservative parties in the nineteenth and twentieth centuries. Students will be asked to make presentations dealing with aspects of such movements.	Politics 102b. <b>Industrial Sociology</b>	See Sociology 170b. Usually offered every third year. Mr. Ross	Politics 111a. <b>The American Congress</b>	Usually offered every year. Mr. Woll
	Usually offered every year. Mr. Macridis	Politics 111a. <b>The American Congress</b>	Usually offered every year. Mr. Woll	Politics 112a. <b>American National Institutions</b>	Usually offered in even years. Mr. Melnick
		Politics 113b. <b>The American Presidency</b>	Usually offered every year. Mr. Milkis	Politics 113b. <b>The American Presidency</b>	Usually offered every year. Mr. Milkis
		Politics 114a. <b>Judicial Activism</b>	Usually offered in odd years. Staff	Politics 114a. <b>Judicial Activism</b>	Usually offered in odd years. Staff
		Politics 115a. <b>Constitutional Law</b>	Usually offered every year. Mr. Woll	Politics 115a. <b>Constitutional Law</b>	Usually offered every year. Mr. Woll

Politics 116b. <b>Civil Liberties in America</b>	Usually offered every third year. Mr. Abramson	Politics 141b. <b>Africa and World Politics</b>	Usually offered in odd years. Staff
Politics 117a. <b>Administrative Law</b>	Usually offered in even years. Mr. Woll	Politics 143b. <b>Third World Countries and Soviet Strategies</b>	See AAAS 118b. Usually offered every year. Mr. Pouney
Politics 118b. <b>Research Seminar: Voting Behavior</b>	Usually offered in odd years. Mr. Milkis	Politics 144a. <b>Politics in Latin America I</b>	Usually offered every year. Mr. Hindley
Politics 121b. <b>Limits of the Market and Public Intervention</b>	Usually offered in odd years. Staff	Politics 144b. <b>Politics in Latin America II</b>	Usually offered in even years. Mr. Hindley
Politics 123b. <b>Politics of Urban Criminal Justice</b>	Usually offered in even years. Mr. Levin	Politics 150a. <b>Politics of Southeast Asia</b>	Usually offered every year. Mr. Hindley
Politics 124a. <b>Science, Technology and Politics</b>	Usually offered every third year. Staff	Politics 151b. <b>Politics and Modernization: Issues of Autonomy and Dependency</b>	Usually offered every year. Ms. Morgenthau
Politics 125a. <b>Political Change in Afro-American Communities</b>	Usually offered every year. Mr. Pouney	Politics 156b. <b>European Political Systems</b>	Usually offered every third year. Mr. Burg
Politics 127b. <b>Managing Ethnic Conflict</b>	Usually offered in odd years. Staff	Politics 159a. <b>Politics and Society in Contemporary France</b>	Usually offered in odd years. Messrs. Macridis and Ross
Politics 128a. <b>Contemporary Peasant Revolutions</b>	Usually offered every year. Mr. Thaxton	Politics 167b. <b>International Law Organization and Conflict Resolution</b>	Usually offered every year. Ms. Ben-Naftali
Politics 129a. <b>Communism in Eastern Europe</b>	Usually offered in odd years. Mr. Burg	Politics 168b. <b>American Foreign Policy</b>	Usually offered every year. Mr. Brown
Politics 130b. <b>Soviet Domestic Politics</b>	Usually offered every year. Mr. Burg	Politics 172a. <b>Introduction to International Political Economy</b>	Usually offered every year. Mr. Martin
Politics 133a. <b>State and Society in the Middle East</b>	See NEJS 145a. Usually offered in odd years. Ms. Miller	Politics 175b. <b>International Relations in the Middle East and North Africa</b>	Usually offered in even years. Staff
Politics 134b. <b>The Arab-Israeli Conflict</b>	See NEJS 147b. Mr. Levy	Politics 177a. <b>Soviet Foreign Policy</b>	Usually offered in even years. Mr. Burg
Politics 140a. <b>Politics of Africa</b>	Usually offered every year. Ms. Morgenthau	Politics 178a. <b>International Politics of the Pacific</b>	Usually offered in odd years. Mr. Thaxton
Politics 141a. <b>International Politics of Southern Africa</b>	Usually offered in odd years. Ms. Morgenthau		

Politics 179a. <b>Politics and Food Security</b>	Usually offered every year. Ms. Morgenthau	Politics 187a. <b>Philosophies of War and Peace</b>	See Philosophy 159a. Usually offered in even years. Staff
Politics 183b. <b>Community and Alienation: Social Theory from Marx to Freud</b>	Usually offered in even years. Mr. Hulliung	Politics 194a. <b>Politics and the Novel</b>	Usually offered in odd years. Mr. Levin
Politics 184a. <b>Utopia and Power in Modern Political Thought</b>	Usually offered in odd years. Mr. Hulliung		

# Psychology

## Objectives

The graduate program in psychology leads to the degree of Doctor of Philosophy. The goal of the program is to develop competent research psychologists and teachers who will become contributors to knowledge in psychology. Toward this end, an emphasis is placed on research activity, starting in the first semester of graduate study. The program of study reflects a belief that the student should develop an area of research specialization and also should be exposed to a range of topics in general psychology. Dissertation supervision is available in the following areas: sensation, perception, memory, learning, thinking, comparative, developmental, personality, psychopathology, social psychology, linguistics and cognitive science.

The psychology department also offers a program leading to the degree of Doctor of Philosophy in Psychology with specialization in linguistics and cognitive science. This program focuses on mental representation, in particular the representation and processing of language. The program is designed to equip students with a broad understanding of contemporary linguistic theory and its relationships to other areas of psychology. The goal of the program is to train students to carry out independent, original theoretical or experimental research and to be able to bring their research to bear on wider issues.

## Faculty

**Professor Leslie Z. McArthur:** Chair and Director, Social/Developmental: Social psychology, Person perception.

**Professor Ray S. Jackendoff:** Director, Program in Linguistics and Cognitive Science: Linguistics, Semantic theory, Music.

**Adjunct Professor Ashton Graybiel**

**Adjunct Professor Marcel Kinsbourne**

**Professor Raymond Knight:** Clinical psychology, Experimental psychopathology.

**Professor James R. Lackner:** Director, Spatial Orientation Laboratory: Human experimental psychology, Psycholinguistics.

**Professor Joan Maling:** Linguistics, Syntactic theory, Historical syntax, Metrics.

**Professor Ricardo B. Morant:** Director, Program in Experimental/Physiological Psychology: Experimental psychology, Perceptual mechanism, Sensation and perception.

**Professor Zick Rubin:** Social psychology, Interpersonal relationships.

**Professor Arthur Wingfield:** Human memory, Cognitive processes.

**Professor Edgar Zurif:** Neurolinguistics, Psycholinguistics.

**Visiting Professor Daniel Bar-Tal:** Social psychology, Political psychology, Education.

## Admission

The general requirements for admission to the graduate school, as specified in an earlier section of this catalog, apply to candidates for admission to this area of study.

An undergraduate major in psychology is not required. Students with inadequate preparation may make up their deficiencies during their first year, but without residence credit. Students are admitted on a competitive basis, which includes evaluation of previous academic records, recommendations and results of the Graduate Record Examination (Aptitudes and Psychology Achievement Tests).

Applications to linguistics and cognitive science should specifically mention interest in this program.

**Associate Professor Teresa M. Amabile:** Director, Program in Social/Developmental Psychology: Social psychology, Creativity.

**Associate Professor June B. Grinshaw:** Linguistics, Language acquisition.

**Associate Professor Maurice Hershenov:** Visual space perception, Visual information processing.

**Associate Professor Marjorie Lachman:** Life-span development, Adult personality.

**Associate Professor Alan S. Prince:** Phonological theory, Metrics.

**Associate Professor James Todd:** Layout and motion perception.

**Associate Professor Malcolm W. Watson:** Developmental psychology.

**Associate Professor Jerome Wodinsky:** Comparative psychology, Learning theory, Sensory physiology.

**Associate Professor Moira Yip:** Autosegmental and metrical phonology, Tone systems.

**Assistant Professor Michael Berbaum:** Group problem-solving and decision-making.

**Assistant Professor Joseph Cunningham:** Developmental psychopathology.

**Assistant Professor D. Lynn Halpern:** Sensory physiology, Visual and auditory psychophysics.

**Assistant Professor Moira Yip:** Autosegmental and metrical phonology, Tone systems.

## Degree Requirements

### Doctor of Philosophy

#### Program of Study.

Although there is a two-year minimum residency requirement, four years of full-time graduate study are usually required for the Ph.D. The student is expected to carry the equivalent of 12 credit units per semester during residency.

#### Research.

Each student will devote one-quarter of his or her time to research the first semester of the entering year. For all subsequent semesters, students shall devote a minimum of one-half time to research.

#### Research Reports.

Students will submit reports on their research for the preceding year, in journal form, in time to permit evaluation of the first project by the end of the third semester, and of the second project by the end of the fifth semester. Satisfactory completion of the research projects is required for continuation in the program. Students who have satisfactorily completed the research requirements will be permitted to continue their work toward the doctorate with no formal requirement of a master's degree.

#### Course Requirements.

Entering students will take two advanced courses and Psychology 315, in the first term of residence, one advanced course and Psychology 210b in the second term. After that they shall take two advanced courses per term in the second year, and one each term thereafter until admitted to candidacy for the doctorate. Each term, a student must take at least one graduate level course or seminar (100-level or above) that is not an Independent Readings or Research course. Only selected 100-level courses, determined by the psychology department, will count as advanced, graduate level courses. Graduate level course selection will not be restricted to the psychology department but will be arranged by the student in consultation with the faculty advisor.

#### Qualifying Examinations.

Before being admitted to candidacy for the doctorate, each student must also pass a qualifying examination. During the student's third year, he or she will be examined in the historical, theoretical and empirical literature related to the student's area of specialization, broadly conceived. The chairman of the department, in consultation with the student and advisor, will appoint a three-member committee to administer the qualifying examination. The examination may be in either oral or written form. A student may petition the department to take the examination a second time if necessary.

#### Breadth Requirement.

All graduate students must demonstrate breadth in the field of psychology before being admitted to candidacy for the Ph.D. This breadth requirement is fulfilled by demonstrating competence in at least six of the nine areas listed below. The requirements may be satisfied in any of three ways:

a. by having completed an undergraduate or graduate course in that area,

b. by completing an undergraduate or graduate course offered in that area at Brandeis,

c. by successfully passing the equivalent of any undergraduate final examination for that course.

Of the six courses, a minimum of two should be taken from areas in Group A and a minimum of two from Group B.

#### Group A

1. Physiological/Sensory Processes
2. Perception
3. Learning/Comparative
4. Cognition/Memory
5. Cognitive Science/Linguistics

#### Group B

1. Developmental
2. Social
3. Personality
4. Abnormal

#### Teaching Assistant Requirements.

Each student must work as a teaching assistant for a minimum of four courses, including the course Introduction to Psychology and at least one of the following courses: Statistics, Experimental, Developmental, Cognitive Processes, Sensory Processes, Perception, Social, Personality or Abnormal.

#### Language Requirement.

There is no foreign language requirement.

#### Admission to Candidacy.

A student may be admitted to candidacy for the doctorate upon fulfilling the above requirements.

#### Dissertation and Defense.

Following the completion of all examinations, the student will prepare a prospectus of the proposed dissertation study in consultation with a faculty dissertation sponsor. The prospectus may be based on preliminary research conducted prior to the student's admission to candidacy for the doctorate. Upon approval by the faculty of the department, a dissertation committee of three or more members will be appointed by the department chair, including the dissertation sponsor as chair of the committee. The dissertation sponsor will be responsible for advising the student throughout the performance of his or her work, in consultation with the remaining members of the committee at appropriate times in the course of the work. From time to time, the committee will report the student's progress to the department faculty.

The dissertation should provide evidence of originality, scholarship and research ability. It should be a contribution to knowledge, ordinarily an experimental investigation, but not necessarily so. Upon submission to the

	chair of the department of a copy of the dissertation, signed by all members of the dissertation committee and one member from outside of the university, and a successful defense of the dissertation before all members of the department, the award of the Ph.D. will be recommended to the Faculty Council of the Graduate School.	b. All students will take the following courses every year until they are admitted to candidacy: Seminar in Cognitive Science Two of: Topics in Syntax, Topics in Semantics, Topics in Phonology
<b>Master of Arts</b>	Students in the Ph.D. program may petition for a Master of Arts degree upon completion of the following requirements: 1) One year minimum residency. 2) Acceptable master's thesis. (An acceptable first-year research report will count as a master's thesis.) 3) Completed breadth requirements.	All programs must be approved by the graduate advisor.
<b>Ph.D. in Psychology with Specialization in Linguistics and Cognitive Science.</b>	This program focuses on the development of formal theories of mental representation. It emphasizes the unity behind approaches to mind within cognitive psychology and linguistics, with attention to the important contributions of computer science and philosophy. Application should specifically mention an interest in this program.  The degree requirements are as given above, except in the following respects:	In addition to the areas covered by the course requirements, students must demonstrate competence in four areas, two from Group A and two from Group B.  <b>Group A:</b> Psycholinguistics; neurolinguistics; language acquisition; historical/comparative linguistics.  <b>Group B:</b> Cognitive psychology; statistics (graduate level); logic/philosophy of mind; computer science/artificial intelligence.
<b>Course Requirements.</b>	a. All student will take the following courses in their <b>first year</b> : Syntax Phonology Research Seminar (for credit) Seminar in Cognitive Science One of: Topics in Syntax, Topics in Semantics, Topics in Phonology	Courses offered for satisfaction of the breadth requirement must be approved by the Linguistics and Cognitive Science faculty.  Students will submit reports on their research in time to permit evaluation of the first project by the end of the third semester, and of the second project by the end of the fifth semester. Satisfactory completion of the research projects is required for continuation in the program.

## Courses of Instruction

<b>Psychology 120b. Man in Space</b>	This course concerns the physiological and psychological consequences of prolonged exposure to weightlessness. The topics covered will include a) how orbital flight is achieved, b) spacecraft life support systems, c) circulatory dynamics, d) sensory-motor control and vestibular function in free fall. Emphasis is placed on the physiological and psychological adaptations necessary in space flight and how astronauts must readapt on return to earth.  Usually offered every year.  Mr. Lackner	<b>Psychology 130b. Life-Span Development: Adulthood and Old Age</b>  Seminar on advanced topics in life-span developmental theory and methodology. Substantive emphasis will be on intellectual and personality changes that occur in the second half of life.  Usually offered in even years.  Ms. Lachman
<b>Psychology 123b. Psychology of Pictorial Representation</b>	The main thrust of the seminar will be to explore the question of how visual reality is mediated by painting. The first meetings will examine the theories of, among others, Gombrich and Gibson. Later meetings will deal with specific issues relating to the representation of objects and persons; for example, anamorphic art and the problem of perspective, the representation of color and brightness relationships, object transparency, caricature and image, pictures as signals and symbols.  Usually offered in even years.  Mr. Morant	This course deals with research in impression formation and emotion perception. Information about people's psychological attributes that is provided in their face, voice and bodily movements will be considered. Issues of stereotyping, accuracy and errors in person perception will be treated as well as developmental differences, individual differences and cultural differences.  Usually offered in even years.  Ms. McArthur

<b>Psychology 136a. Advanced Topics in Developmental Psychology</b>	The objective of this course is to provide students with detailed information about theories and special topics of research in developmental psychology.	<b>Psychology 153a. Consciousness</b>	Usually offered every fourth year.  Messrs. Jackendoff and Morant
	Usually offered every year.  Mr. Watson	<b>Psychology 154a. Human Memory</b>	This course presents a systematic analysis of current and traditional memory research and theory as it sheds light on both normal memory and cognitive function and on memory deficits following cerebral damage.  Usually offered every year.  Mr. Wingfield
<b>Psychology 138a. Social Relationships</b>	An examination of social relationships, including parent-child relationships, friendships, marriage and work relationships, viewed in the context of psychology, social structure and culture. Attention will be given to research strategies for studying social relationships and students will be encouraged to conduct their own research.  Usually offered in even years.  Mr. Rubin	<b>Psychology 155a. Seminar in Visual Perception</b>	Seminar will discuss major theories of perception: Gibson, Johansson, transactionalism, neo-Helmholtzian (Rock, Epstein, Wallach), computation (Marr, Ullman), hierarchical structure (Hershenson). Emphasis will be on fundamental properties of perception: size and shape constancy, and motion.  Usually offered every year.  Mr. Hershenson
<b>Psychology 145b. Aging in a Changing World</b>	Psychological issues related to the aging processes are examined in a multi-disciplinary perspective. Social, biological, political, economic and historical/cultural factors that affect and are affected by psychological aging are considered. Topics include intellectual functioning, mental illness, memory loss, personality changes, social support, coping with stressful life events and physiological changes in later life.  Usually offered in odd years.  Ms. Lachman	<b>Psychology 156b. Perceptual Development</b>	Usually offered in even years.  Mr. Morant
<b>Psychology 150b. Organizational Psychology</b>	This course covers the fundamentals of industrial/organizational psychology, including the topics of leadership, work motivation, organizational innovation, corporate culture, personnel selection, job evaluation and group dynamics.  Usually offered in even years.  Ms. Amabile	<b>Psychology 160b. Seminar on Sex Differences</b>	This course will examine societal sex roles and lay beliefs about sex differences in light of evidence bearing on: 1) actual sex differences in ability and/or personality; 2) biological vs. social explanations for sex differences; 3) motivational and cognitive biases in the perception of group differences.  Usually offered every year.  Mr. Cunningham
<b>Psychology 151b. Social Psychology of Education</b>	This course presents the framework, scope and bases of social psychology of education. Then, special attention will be given to the examination of all the components of classroom interaction: the pupils, the teacher, the classroom group and the physical environment.  Usually given in odd years.  Mr. Bar-Tal	<b>Psychology 161a. Clinical Psychology Practicum I</b>	This course, in conjunction with Psychology 161b, provides an intensive, supervised practicum experience in the provision of mental health services. Students pursue a program of reading and spend one day a week working in a clinical facility. Weekly class meetings are structured to provide opportunities for personal and professional growth through discussion of individual experiences in the clinical setting.  Usually offered every year.  Mr. Cunningham
<b>Psychology 152b. Issues in Political Psychology</b>	This course focuses on the application of cognitive social psychology to the analysis of political problems. Specifically, it will first present social psychological theories of beliefs and then its uses in political analysis of individuals and groups.  Usually offered in odd years.  Mr. Bar-Tal	<b>Psychology 161b. Clinical Psychology Practicum II</b>	A continuation of Psychology 161a.  Usually offered every year.  Mr. Cunningham
		<b>Psychology 167b. Schools of Psychotherapy</b>	Theories and techniques of several schools of psychotherapy and behavior modification are considered. The theories of personality, methods of intervention, goals of therapy and relevant research will be emphasized.  Usually offered every year.  Mr. Knight

<b>Psychology 168a. The Psychology of Creativity</b>	The purpose of this course will be 1) to explore the foundations of modern theory and research on creativity, and 2) to examine methods of stimulating creative thought and expression. The course material will include 1) psychodynamic, behavioristic, humanistic and social psychological theories of creativity, 2) personality studies of creative individuals, 3) studies of creative environments, 4) methods of defining and assessing creativity and 5) programs designed to increase both verbal and non-verbal creativity.	<b>Psychology 181b. Medical Anthropology</b>	See Anthropology 101b. Usually offered every year. Mr. Jacobson
	Usually offered every year. Ms. Amabile	<b>Psychology 182b. Culture and Cognition</b>	See Anthropology 161b. Usually offered every year. Mr. Murray
<b>Psychology 169b. Disorders of Childhood</b>	This course will review issues of theory, research and practice in the areas of child and adolescent psychopathology and treatment. Special attention will be given to the need for examining abnormality in the context of normal developmental processes. The relationship between theory and practice will be explored through reading and discussion of theory, empirical research and clinical case material.	<b>Psychology 183b. Psychological Anthropology</b>	See Anthropology 155b. Usually offered every fourth year. Mr. Saler
	Usually offered in even years. Mr. Cunningham	<b>Psychology 184b. Philosophy and Psychology</b>	See Philosophy 101b. Usually offered in even years. Mr. Samet
<b>Psychology 172a. Temporal Patterning of Behavior</b>	This course concerns the way animals control and perceive spatially directed posture and movements. Topics range from the definition of optical, mechanical and acoustic information about orientation to how body orientation and motion with respect to these referents may be represented.	<b>Psychology 185b. Philosophy of Mind</b>	See Philosophy 156b. Usually offered in odd years. Mr. Samet
	Usually offered in odd years. Mr. DiZio	<b>Psychology 193b. Tests and Measurements</b>	This course covers test theory, types of measurement, the theory and measurements of reliability and validity, and test construction. The measurements of intelligence, achievement and personality are also considered. Usually offered in odd years. Mr. Knight
<b>Psychology 173a. Psycholinguistics</b>	See Linguistics 173a. Usually offered in even years. Mr. Zurif	<b>Psychology 194b. Language and Mind</b>	An examination of Noam Chomsky's approach to the theory of language, concentrating on the notion of innate ability to learn human languages. This course will discuss philosophical and psychological consequences of Chomsky's theory, discussing applications of his conceptual framework to the study of other human activities such as reasoning, perception, sensory-motor coordination and the understanding of music. Usually offered in odd years. Mr. Zurif
<b>Psychology 175b. Seminar in Sensory Perception</b>	This course will survey the sensory systems, beginning with a detailed study of well-established anatomy and physiology and continuing with a discussion of more recent findings in each area. The readings are designed to link neurophysiological evidence with psychophysical observations.	<b>Psychology 195a. Introduction to Psychological Theory</b>	A survey of psychological theories including Associationism, Structuralism, Functionalism, Gestalt, Behaviorism, Psychoanalysis and their modern derivatives. Emphasis is on the nature of explanation and the methods by which it is achieved. Usually offered every year. Mr. Hershenson
<b>Psychology 180b. Seminar: Writing and the Social Sciences</b>	Examines the range of writing in the social sciences, both "popular" and "scholarly," including journal articles, dissertations, books, magazine articles, newspaper columns and life studies. Students write and exchange feedback on short pieces, with a view toward preparing work for publication. Frequent visits by social scientists, writers and editors.		
	Usually offered in even years. Mr. Rubin in collaboration with Mr. Zola		

Psychology 197a. <b>Language Acquisition and Development</b>	See Linguistics 197a. Usually offered in even years. Ms. Grimshaw	Psychology 209a. <b>Advanced Seminar in Measurement Theory and Mathematical Modelling</b>	Usually offered every third year.
Psychology 199a. <b>Neuropsychology</b>	This course is designed as an introduction to the field of neuropsychology. Topics will include the concepts of cerebral dominance and localization of function within the human brain, with special reference to language and related mental function. The aphasic syndromes will receive special attention, including their symptoms, progress, brain localization and concomitant cognitive disorders.  Usually offered every year. Mr. Zurif	Psychology 210a. <b>Advanced Psychological Statistics I</b>	Probability and inferential statistics for experimental research. Rules of probability, random variables and their distributions, statistical inference, tests of hypotheses and confidence intervals for population means, principles of experimental design, the analysis of variance. Introduction to computer analysis using the SPSS and BMDP statistical packages.  Usually offered every year. Mr. Berbaum
Psychology 202b. <b>Seminar in Human Spatial Orientation</b>	Usually offered in even years. Mr. Lackner	Psychology 210b. <b>Advanced Psychological Statistics II</b>	Statistical procedures for quasi- and non-experimental research. Correlation and regression, multiple regression, partial and multiple correlation, the analysis of contingency tables (cross-tabulations), nonparametric statistics. Computer data analysis using SPSS and BMDP.  Usually offered every year. Mr. Berbaum
Psychology 203b. <b>Seminar in the Neuropsychology of Language</b>	This seminar will consider theories of brain-language relations.  Usually offered in odd years. Mr. Zurif	Psychology 213b. <b>Cognition and the Brain</b>	Usually offered every fourth year. Staff
Psychology 205a. <b>Seminar in Perceptual Development</b>	A detailed analysis of recent experimental and theoretical literature on perceptual development.  Usually offered in odd years. Mr. Hershenson	Psychology 216b. <b>Research Seminar in Cognitive Sciences</b>	In this seminar, students will present and discuss their ongoing research.  Usually offered every year. Staff
Psychology 206b. <b>Computer Methods in Psychological Experimentation</b>	Usually offered in even years. Mr. Todd	Psychology 218b. <b>Seminar in Social Cognition</b>	This course deals with research in impression formation and causal attribution. Causal attributions for one's own behavior as well as for other people's behavior will be treated. Determinants of impression formation and causal attribution to be covered include social information, attention, motives and individual differences.  Usually offered every third year. Staff
Psychology 207a. <b>Seminar in Perception</b>	This course examines the various aspects of visual information by which objects and events in 3-dimensional space are perceived by human observers. Current research in both psychology and artificial intelligence will be considered.  Usually offered in even years. Mr. Todd	Psychology 220-240a and b. <b>Courses in Research</b>	Offered every year. and b.
Psychology 208a. <b>Seminar in Cognitive Sciences</b>	This year the seminar will discuss the foundations of cognitive science; what constitutes a mental representation and how representation is involved in processing and brain function.  Usually offered every year. Mr. Jackendoff	220a and b. <b>Research in Spatial Orientation</b>	Mr. Lackner
		221a and b. <b>Research in Semantics and Conceptual Structure</b>	Mr. Jackendoff
		222a and b. <b>Research in Human Spatial Orientation</b>	Mr. Morant

223a and b. <b>Research in Social Psychology</b>	Mr. Rubin	238a and b. <b>Research in Metric and Phonological Theory</b>	Mr. Prince
224a and b. <b>Research in Speech Perception and Cognitive Processes</b>	Mr. Wingfield	239a and b. <b>Research in Autosegmental and Metrical Phonology.</b>	Ms. Yip
225a and b. <b>Research in Visual Space Perception</b>	Mr. Hershenson	240a and b. <b>Research in Sensory Physiology, Visual and Auditory Psychophysics</b>	Ms. Halpern
226a and b. <b>Research in Cognitive Processes and Psychopathology</b>	Mr. Knight	Psychology 250-270a and b. <b>Advanced Research Project</b>	Offered every year.
227a and b. <b>Research in Neurolinguistics and Psycholinguistics</b>	Mr. Zurif	250a and b. Mr. Lackner	261a and b. Ms. Amabile
228a and b. <b>Research in Syntax and Comparative Germanic</b>	Ms. Maling	251a and b. Mr. Morant	262a and b. Mr. Berbaum
229a and b. <b>Research in Person Perception</b>	Ms. McArthur	252a and b. Mr. Rubin	263a and b. Mr. Cunningham
230a and b. <b>Research in Animal Behavior</b>	Mr. Wodinsky	253a and b. Mr. Wingfield	264a and b. Ms. Grimshaw
231a and b. <b>Research in Social Psychology</b>	Ms. Amabile	254a and b. Mr. Hershenson	265a and b. Ms. Lachman
232a and b. <b>Research in Developmental Psychopathology</b>	Mr. Cunningham	255a and b. Mr. Knight	266a and b. Mr. Todd
233a and b. <b>Research in Syntax and Language Learnability</b>	Ms. Grimshaw	256a and b. Ms. McArthur	267a and b. Mr. Zurif
234a and b. <b>Research in Life-span Development; Adult Personality</b>	Ms. Lachman	257a and b. Mr. Wodinsky	268a and b. Mr. Prince
235a and b. <b>Research in Layout and Motion Perception</b>	Mr. Todd	258a and b. Mr. Watson	269a and b. Ms. Halpern
236a and b. <b>Research in Developmental Psychology</b>	Mr. Watson	259a and b. Mr. Jackendoff	270a and b. Ms. Yip
237a and b. <b>Research in Group Problem Solving and Decision-Making</b>	Mr. Berbaum	260a and b. Ms. Maling	

Psychology 280-299a and b. <b>Advanced Readings</b>	Offered every year. 280a and b. <b>Mr. Lackner</b>  281a and b. <b>Mr. Morant</b>  282a and b. <b>Ms. Halpern</b>  283a and b. <b>Mr. Wingfield</b>  284a and b. <b>Mr. Hershenson</b>  285a and b. <b>Mr. Knight</b>  286a and b. <b>Ms. McArthur</b>  287a and b. <b>Mr. Wodinsky</b>  288a and b. <b>Mr. Watson</b>  289a and b. <b>Mr. Jackendoff</b>	290a and b. <b>Ms. Maling</b>  291a and b. <b>Ms. Amabile</b>  292a and b. <b>Mr. Berbaum</b>  293a and b. <b>Mr. Cunningham</b>  294a and b. <b>Ms. Grimshaw</b>  295a and b. <b>Ms. Lachman</b>  296a and b. <b>Mr. Todd</b>  297a and b. <b>Mr. Zurif</b>  298a and b. <b>Mr. Prince</b>  299a and b. <b>Ms. Yip</b>	Psychology 320a and b. <b>Advanced Tutorial in Spatial Orientation</b>	Usually offered every year. Mr. Lackner
Psychology 400-420d. <b>Dissertation Research</b>	400d. Mr. Lackner 401d. Mr. Jackendoff 402d. Mr. Morant 403d. Mr. Rubin 404d. Mr. Wingfield 405d. Mr. Hershenson 406d. Mr. Knight 407d. Mr. Watson 408d. Ms. Maling 409d. Ms. McArthur 410d. Mr. Wodinsky	411d. Ms. Amabile 412d. Mr. Cunningham 413d. Ms. Grimshaw 414d. Ms. Lachman 415d. Mr. Todd 416d. Mr. Berbaum 417d. Mr. Zurif 418d. Mr. Prince 419d. Ms. Halpern 420d. Ms. Yip	411d. Ms. Amabile 412d. Mr. Cunningham 413d. Ms. Grimshaw 414d. Ms. Lachman 415d. Mr. Todd 416d. Mr. Berbaum 417d. Mr. Zurif 418d. Mr. Prince 419d. Ms. Halpern 420d. Ms. Yip	
<b>Courses and Seminars for Graduate Students and Advanced Undergraduates</b>				
Psychology 300a. <b>Proseminar in Social and Developmental</b>	This course offers an in-depth review of primary sources in several major topic areas of social and developmental psychology.  Usually offered in odd years.  Mr. Berbaum	Linguistics 100a. <b>Introduction to Linguistics</b>	A general introduction to linguistic theory and the principles of linguistic analysis. The central topic of the course is what speakers know about their language; syntax, semantics and phonetics and phonology. In each area, students will construct detailed analyses of data from English and from other foreign languages. Additional topics such as historical linguistics and the psychological implicatures of linguistic theory will be covered as time allows.	Usually offered every semester.  Fall Term Mr. Jackendoff Spring Term Ms. Yip
Psychology 304a. <b>Research Methodology for Developmental and Social Psychology</b>	This course provides a comprehensive review of empirical methodology in social and developmental psychology including: research ethics, hypothesis testing, experimental and quasi-experimental design, naturalistic observation, survey and evaluation research, clinical and applied research, data analysis, report writing and peer review procedures.  Usually offered in even years.  Mr. Cunningham	Linguistics 110a. <b>Phonological Theory</b>	This course is an introduction to Generative Phonology, which is a theory of natural language sound systems. It begins with a review of articulatory phonetics, followed by distinctive feature theory and the concept of a "natural class." The central section covers morphology and the nature of morphophonetics and universal properties of the rules that relate morphophonemic and phonetic representations. The course ends with discussion of a special topic such as syllable structure or word-formation.	Usually offered every year.  Mr. Prince
Psychology 310b. <b>Topics in Data Analysis for Social Scientists</b>	Usually offered every third year. Staff	Linguistics 112b. <b>Introduction to Historical Linguistics</b>	Principles and methods of language change and linguistic reconstruction. Emphasis on the history and development of the Indo-European language family. Readings from earlier scholars (Meillet, Jakobson, Vendryés, etc.) as well as discussion of present-day issues in historical and comparative linguistics. Practical exercises in comparative method and internal reconstruction.	Usually offered in odd years. Staff
Psychology 315d. <b>Faculty Research Seminar</b>	This seminar is required of all first-year graduate students. Taught by all faculty members of the department, the course exposes students to faculty members' current research.  Usually offered every year.  Staff			
Psychology 316a. <b>Social/Developmental Research Seminar</b>	This course is required of all social/developmental graduate students who have not been admitted to candidacy.  Usually offered every year.  Mr. Bar-Tal			

Linguistics 120b. <b>Syntactic Theory</b>	This course extends the syntactic framework developed in the introductory course through the study of such problems as the complement system and constraints on transformations, with emphasis on their relevance to universal grammar.  Usually offered every year.  Mr. Prince	Linguistics 197a. <b>Language Acquisition and Development</b>	When a child knows a language he or she has successfully constructed a grammar of it; in the course of constructing the grammar the child must form hypotheses about the language and test them against the available data. The central problem of language acquisition is to explain what makes this formidable task possible. In the course, we will study and evaluate theories of language acquisition in this light, basing our conclusions on recent research in the development of syntax, semantics and phonology. The overall goal is to arrive at a coherent picture of the kinds of hypotheses children make, and the kinds of strategies they use as they progress toward mastery over their language.  Usually offered in even years.  Ms. Grimshaw
Linguistics 122b. <b>Investigations in an Unfamiliar Language</b>	Using a native speaker of an unfamiliar language (such as Turkish or Amharic) as a source of data, the class will investigate the structure of the language and compare it with the structure of English and other familiar languages. May be repeated for credit.  Usually offered in even years.  Mr. Prince	Linguistics 199a and b. <b>Directed Research</b>	Usually offered every year. Staff
Linguistics 130a. <b>Semantics</b>	This course explores the semantic structure of language in terms of current linguistic theory. Topics to be covered include the nature of semantic representation, functional structure, presupposition and reference.  Usually offered in odd year.  Mr. Jackendoff	<b>Seminars for Graduate Students</b>	
Linguistics 135a. <b>Linguistics and the Romance Languages</b>	Usually offered every fourth year.  Ms. Grimshaw	Linguistics 215b. <b>Phonology</b>	Recent developments in phonological theory, with special emphasis on prosodic phonology including autosegmental theories of tone, nonlinear morphology and phonology, and metrical theories of stress. Required of first-year graduate students in linguistics and cognitive science.  Usually offered every year.  Mr. Prince
Linguistics 140a. <b>History of the English Language</b>	Usually offered in even years.  Ms. Maling	Linguistics 217b. <b>Topics in Phonology</b>	Topics drawn from recent research in metrical, autosegmental and lexical phonology. Requirements include a class presentation and a research paper. Material covered will vary from year to year.  Usually offered every year.  Mr. Prince
Linguistics 150b. <b>Introduction to Cognitive Science</b>	This course will consider how the mind is structured to represent and process information of relevance to language and other cognitive domains.  Usually offered every year.  Mr. Zurif	Linguistics 225b. <b>Syntax</b>	Recent developments in syntax, including such topics as constraints on rules, trace theory, government and binding, and lexical-functional grammar. Required of first-year graduate students in linguistics and cognitive science.  Usually offered every year.  Ms. Maling
Linguistics 153a. <b>Consciousness</b>	Usually offered every fourth year.  Staff	Linguistics 226a. <b>Topics in Syntax</b>	Current issues in the theory of syntax, focusing on research in government binding theory and lexical-functional grammar. Topics covered will vary from year to year, but will generally include: anaphora, extraction, bounding conditions and lexical representation.  Usually offered every year.  Ms. Maling
Linguistics 173a. <b>Psycholinguistics</b>	An introduction to modern psycholinguistics with an emphasis on language comprehension and production. Questions concerning species-specificity and the neurological organization of language are included for consideration.  Usually offered in even years.  Mr. Zurif	Linguistics 236a. <b>Topics in Semantics</b>	Usually offered every third year. Staff
Psychology 194b. <b>Language and Mind</b>	An examination of the notion of innate ability to learn human language, considered in relation to issues of brain localization, species-specificity and developmental constraints.  Usually offered in odd years.  Mr. Zurif		

## Russian

See Joint Program of Literary Studies

## Sociology

### Objectives

The graduate program in sociology is primarily a doctoral program and is designed for students who intend to devote themselves to teaching and research in sociology. The student may, by satisfying certain requirements, receive the M.A. degree. The general objective is to educate students in the major areas of sociology with specialization in several of them.

### Admission

The general requirements for admission to the Graduate School, as specified in an earlier section of this catalog, apply to candidates for admission to the sociology department.

In addition, all prospective students are required to submit written material (papers, etc.) representative of their best work, which need not be, however, of a sociological nature.

### Faculty

**Professor George W. Ross,**  
Chair:  
Political sociology.  
Social theory.

**Professor Egon Bittner:**  
Sociology of law.  
Social control.

**Professor Emeritus Morris S. Schwartz:**  
Social psychology.  
Social psychiatry.  
Peace studies.

**Professor Maurice R. Stein:**  
Communities.  
Culture, counseling,  
consciousness.

**Professor Irving K. Zola:**  
Sociology of health  
and illness. Disability  
studies. Deviance.  
Field studies.

**Professor Emeritus Kurt H. Wolff:**  
Sociology of  
knowledge.  
Phenomenology and  
sociology.  
"Surrender-and-  
Catch."

**Associate Professor Peter Conrad:**  
Sociology of health  
and illness. Deviance.  
Field methods.

**Associate Professor Gordon A. Fellman:**  
Marx and Freud.  
Social stratification.  
Peace studies.

**Associate Professor Karen E. Fields:**  
Sociology of religion.  
Sociology of  
development.

**Associate Professor Charles S. Fisher:**  
Technology and  
environment. Social  
psychology of  
consciousness.

**Associate Professor Gila J. Hayim:**  
Sociological theory,  
critical theory,  
phenomenology and  
existential sociology.

**Associate Professor Shulamit Reinharz:**  
Qualitative  
methodology. Social  
gerontology. Feminist  
research. Social  
psychology. Group  
dynamics.

**Visiting Associate Professor Carmen Sirianni:**  
Work, organizations,  
theory, comparative  
sociology.

**Assistant Professor M. Jacqueline Alexander:**  
Sociology of health.  
Political sociology.  
Third world  
development.  
Sociology of women.

**Assistant Professor Kathleen Barry:**  
Feminist theory.  
Family. Sociology of  
education.

**Assistant Professor Michael W. Macy:**  
Quantitative methods.  
Political sociology.  
Class and  
stratification.

## Degree Requirements

### Doctor of Philosophy

#### Program of Study.

Students entering the Ph.D. program in sociology are expected to undertake a two-year program of course work, as a part of which they are obliged to take the departmental Pro-Seminar (Sociology 290). The initial program of studies will be arranged in consultation with the graduate student's advisor. Consideration will be given to graduate work done elsewhere but formal transfer credit will be assigned only after the successful completion of the first year of study.

#### Requirements for the M.A.

An M.A. may be granted after the successful completion of three semesters of course work and submission of two substantial research papers to be approved by the department.

#### Residence Requirement.

The minimum residence for the degree of Doctor of Philosophy is two years. It is expected that the Ph.D. will be earned within five years.

#### Language Requirements.

There is no foreign language requirement for the Ph.D. degree.

#### Qualifying Examinations.

During a student's residency until the time of his or her formal admission to candidacy, the specific planning, evaluation and accreditation of his or her entire course of study will be in the hands of each student's Guidance-Accreditation Committee composed of three faculty members. Along with the student, this committee will lay out a general course of study designed to meet the interests and needs of the student. Upon completion of this course of study, the student will take an oral qualifying examination covering both general sociology and the areas of the student's special interests. It is assumed that students will fulfill their accreditation before the end of their third year of residence.

#### Admission to Candidacy.

A student shall be eligible for admission to candidacy for the Ph.D. upon fulfillment of the residence requirements, passing the departmental qualifying examination, and successful defense of a dissertation proposal. The work on the doctoral dissertation will be supervised by a Dissertation Committee.

#### Dissertation and the Final Oral Examination.

The Ph.D. dissertation may be accepted by the department upon the recommendation of the Dissertation Committee. To be granted the degree, the student is required to defend the dissertation in a public Final Oral Examination.

## Courses of Instruction

Sociology 101a. <b>American Society</b>	Usually offered in even years. Staff	Sociology 104a. <b>Sociology of Education</b>	A study of educational institutions which examines pedagogy, educational structures and ideologies as they relate to social inequality in the broader society. This course examines the role of the institution of education as a force for social change versus the idea that education's function is to reinforce prevailing social conditions.  Usually offered in even years. Ms. Barry
Sociology 102a. <b>Social Psychiatry</b>	Training in peer counseling is offered through classes, supervised sessions with other students, and community work. Theory, social contexts and practice of re-evaluation counseling is stressed. Other social psychiatric approaches are also covered.  Usually offered every year. Mr. Stein	Sociology 105a. <b>Feminist Critique of Contemporary Social Institutions I</b>	Study of the various issues addressed in feminist activism (i.e., family, childcare, reproductive rights, employment discrimination, social construction of sexuality and lesbian rights, sexual violence) as they form a critique of social and political institutions, analysis of the structural, ideological and psychological dimensions of sex oppression.  Usually offered every year. Ms. Barry
Sociology 102b. <b>Social Psychiatry-Advanced</b>	Usually offered in even years. Mr. Stein	Sociology 105b. <b>Feminist Critique of Contemporary Social Institutions II</b>	Usually offered every third year. Ms. Barry
Sociology 103a. <b>The Sociology of Mental Illness and Health</b>	This course will concern itself with various sociological and psychological perspectives on the causes, nature of and treatment for mental illness. We will also focus on the ways in which mental health is conceptualized as an internal state and an interpersonal process, and on the suggested means through which it might be achieved.  Usually offered every third year. Mr. Conrad	Sociology 106b. <b>Sociology of Literature</b>	Usually offered every third year. Mr. Stein

Sociology 107a. <b>Issues in Social Psychology</b>	Usually offered in even years. Ms. Reinharz	Sociology 115a. <b>Class Structure and Consciousness</b>	The course explores the importance of property, authority and knowledge in structuring socioeconomic inequality and shaping ideological alignments in contemporary society. What is class inequality, why does it exist and what are its psychological and political consequences; has education supplanted property in status <b>inheritance</b> as well as attainment? Is complete meritocracy incompatible with class inequality or would it "perfect" it? Usually offered every year. Mr. Macy
Sociology 108b. <b>Critiques of Contemporary Society</b>	Usually offered in even years. Ms. Hayim		
Sociology 109b. <b>Black Intellectuals and the Crisis of the Twentieth Century</b>	Considers major political writers and leaders in the United States, Africa and the Caribbean by passing in review the twentieth century as seen from the standpoint of their work. Includes Dubois, Garvey, Nkruman, King, Rodney and others.  Usually offered every year. Ms. Fields	Sociology 116b. <b>Comparative Ethnic Relations</b>	The main purpose of this course is to explore and understand the origin and nature of racial and ethnic differences as they manifest themselves in different human societies. We will explore how theoreticians explain and account for that difference and how those who experience that difference define and use it as a basis to change the content of their daily lives. Our method of exploration will be comparative, historical and interdisciplinary in perspective. Usually offered every year. Mr. Alexander
Sociology 110b. <b>Sociology of Knowledge</b>	History and historical interpretation of the sociology of knowledge with particular emphasis on German and recent American literature.  Usually offered in odd years. Mr. Wolff	Sociology 117a. <b>Work and Society</b>	Work and its transformation in contemporary society; Blue, white and pink collar work; professional and nonprofessional occupations; gender, family and work; labor market structures; affirmative action and comparable worth; crisis of American unionism; the impact of new technologies; occupational health and safety; the service society; post-industrial workplaces; quality of work life reforms and worker participation in the U.S., Japan and Europe; worktime innovations (jobsharing, flexible options); informal economy; the future of work. Usually offered every year. Mr. Sirianni
Sociology 111a. <b>Political Sociology</b>	Usually offered every fourth year. Staff	Sociology 118a. <b>American Jewish Life and Institutions</b>	See NEJS 161a. Mr. Sklare
Sociology 112b. <b>Social Class, Freedom and Equality</b>	The concept of social class; its role in determining life changes, lifestyles, income, occupation and power; theories of class and inequality; selected social psychological aspects of social class and inequality; American class structure and dynamics; American social class and imperialism.  Usually offered every year. Mr. Fellman	Sociology 118b. <b>The Sociology of the American Jewish Community</b>	See NEJS 164b. Mr. Sklare
Sociology 113b. <b>Women and Work</b>	Usually offered every fourth year. Staff	Sociology 119a. <b>Militarism, the Arms Race and American Society</b>	The objective of the course is to increase comprehension of the consequences of militarism and the arms race for American society. Attention will be given to the post-World War II development of militarism and its relationship to American economic, political and social institutions including focus on issues of national security, nuclear proliferation and modern disarmament activity. Usually offered every year. Staff
Sociology 114b. <b>Society and Economy: Sociological Theories of Advanced Capitalism</b>	A review of modern social theories about the production and reproduction of advanced capitalistic economies and social orders, focussing on the specification of and relationships between major social groups, productive organizations and the market in dynamic perspective. Organized around the social history of the contemporary period the course will discuss liberal-Keynesian, elite, social democratic, Marxist and Neo-Marxist, critical and neo-liberal theories.  Usually offered every year. Mr. Ross		

Sociology 120a. <b>Sociology of Underdevelopment I</b>	This course will examine selected aspects of the phenomenon of underdevelopment, paying particular attention to economic, political and social factors internal to Third World societies. Although the course will be informed throughout by general theorizing about underdevelopment and will include theoretical readings, it will emphasize the local consequences of large-scale processes. Topics include migration, rural organization, education and urban growth. Particular emphasis will be placed upon Latin America and the Caribbean. The course is designed with the undergraduate concentrator in one of the social sciences in mind.	Sociology 125b. <b>Land and Peasant Struggles in Latin America/Caribbean</b>	In this seminar we examine the relationship between the ownership, use and control of land and the ability of "Third World" governments to satisfy the food and agricultural needs of their populations. Emphasis is placed upon the history of land policies, the role of multi-nationals, the nature of rural class structures, the emergence of peasant movements and the alternative organizations of cooperative agriculture. Case studies are drawn from Latin America and the Caribbean.
	Usually offered in odd years.		Usually offered every year.
	Ms. Fields		Ms. Alexander
Sociology 120b. <b>The Sociology of Underdevelopment II</b>	This course examines selected aspects of underdevelopment, paying particular attention to processes of change internal to Third World societies.	Sociology 126a. <b>Sociology of Deviance</b>	Usually offered in even years.
	Usually offered in even years.		Mr. Conrad
	Ms. Alexander		
Sociology 121b. <b>Mass Media, Popular Culture and Social Reality</b>	Through an examination of the history and development of contemporary media, including television, films, print media, etc., the course will explore the impact of mass media in everyday life. We will consider questions of audience, politics and ideology, aesthetics and the structure of the culture industry as it perpetuates and creates images of "social reality."	Sociology 128b. <b>Sociology of Religion: Sects, Cults and Societies</b>	Uses case studies to examine religious innovation in comparative perspective and in terms of its impact upon established religion, economic life, political organization and individual personality.
	Usually offered every year.		Usually offered in even years.
	Mr. Zola		Ms. Fields
Sociology 122a. <b>Sociology of Power</b>	Usually offered every third year.	Sociology 130a. <b>The Family I</b>	This course presents a view of the family as a patriarchal institution and analyzes its relationship to other social institutions. Cross cultural analysis is employed to examine family forms, practice and ideas in terms of their impact on women. Critique of the family is approached through studying alternative life-styles and violence in the family.
	Mr. Ross		Usually offered every year.
Sociology 123b. <b>The Crisis of the Welfare State</b>	Cross-national comparisons of the extensiveness and impact of the welfare state will be used to concretize and illuminate larger theoretical questions about the compatibility between the competitive logic of market economies and the universalistic, egalitarian principle of democratic politics. To what extent can democratic pressures alter market outcome? Has the welfare state finally gone "too far," paralyzing the "invisible hand"?	Sociology 131b. <b>Women's Biography and Society</b>	Usually offered every year.
	Usually offered every year.		Ms. Barry
	Mr. Macy		
Sociology 132a. <b>Urban Sociology: City Limits</b>	City limits are social, not geographical boundaries. What then defines them? The course will use case studies from New York, Boston, San Francisco, New Haven and Chicago to: 1) critically assess pluralist, elite and class theories of the distribution of urban political and economic resources, and 2) to explore the structure of neighborhoods as this limits capacities for political mobilization.		Usually offered in odd years.
			Ms. Barry
			Usually offered in even years.
			Mr. Macy

Sociology 134a. <b>Women and Intellectual Work</b>	This research seminar investigates the history of American women social scientists within the context of intellectual history, social structure and gender relations. We will analyze the scholarly work of different generations of women thinkers, including their reflective writing. We will examine the reports of the American Sociological Association on the status of women. From this course students should gain an appreciation both of the history of women's intellectual effort as sociologists and the contrast and continuities with current work.	Sociology 147a. <b>Sociology of Organizations and Occupations</b>	This course will introduce students to the study of organizations primarily through case studies of contemporary organizations in a variety of settings: e.g., street-level bureaucracies (welfare, police), federal bureaucracies (Defense Department, OSHA), high-risk technology systems (nuclear power, nuclear weapons), private corporations (industrial and non-industrial settings), universities and democratic collectives. A critical approach to organization theory—focusing on power, gender, opportunity, participation and organizational change—will be central throughout.
	Usually offered in odd years.		Usually offered every year.
	Ms. Reinhartz		Mr. Sirianni
Sociology 135a. <b>Group Process</b>	Interpretation of interpersonal behavior and group development, based in part on observation of the group itself. Readings will include material from psychology and social anthropology as well as sociology.	Sociology 148a. <b>Social Psychology of Consciousness I</b>	Critical and practical examination of the concept of the individual both in itself and in social context. Social experiences are reexamined in terms of the qualities of mind which engender them. Traditional practices of meditation are reviewed in the forms of metaphor and parable in which they are presented.
	Usually offered every year.		Usually offered every year.
	Section 1: Staff Section 2: Staff		Messrs. Fisher and Stein
Sociology 135b. <b>Group Process—Advanced</b>	A continuation of Sociology 135a.	Sociology 148b. <b>Social Psychology of Consciousness II</b>	Usually offered in even years. Messrs. Fisher and Stein
	Usually offered every year.		
	Staff		
Sociology 141a. <b>Marx and Freud</b>	The course stresses Marxian and Freudian treatment of human nature, human potential, social stability, conflict, change, consciousness, social class and the relationship between family and social process. Topics of contemporary importance are reviewed in the light of both traditions. Attempts to combine the two approaches are examined.	Sociology 151b. <b>Fieldwork in Social Settings: Environmental Research</b>	Usually offered in even years. Mr. Conrad
	Usually offered in even years.		
	Mr. Fellman		
Sociology 144b. <b>Sociopsychological Dimensions of the Arms Race</b>	In this course we will read the literature in, discuss and critically evaluate, the sociopsychological theories, speculations, interpretations and conceptualizations that explain and try to understand the arms race.	Sociology 159a. <b>Politics and Society in Contemporary France</b>	This course will focus on the political and social history of postwar France. The format of the course will be lecture-discussion, to be organized around outstanding and most representative films that cover the main events of postwar France.
	Usually offered in even year.		Usually offered every year.
	Staff		Messrs. Macridis and Ross
		Sociology 160a. <b>Social Conflict and Its Control</b>	Usually offered in even years. Staff
		Sociology 161a. <b>Society, State and Power</b>	This course will examine the ways in which power is exercised in different political regimes and social systems. The major focus of the course will be present-day advanced industrial societies, with particular consideration of the USA. Central topics will include the role of the state in society, the social forces which shape public policy, the control of social conflict. Contrasts will be drawn with Soviet-type societies.
			Usually offered every year.
			Mr. Ross

Sociology 164a. <b>Existential Sociology</b>	This course is an introduction to existential thought and its relation to the discipline of sociology. Existential evaluation of selected theories on human nature and interaction, individual freedom and social ethics, the genesis and fate of the modern human group, types of authority, etc. Readings include works by Sartre, Durkheim, Goffman, Nietzsche, Kierkegaard, Mead and Merleau-Ponty.	Sociology 173b. <b>Contemporary Social Problems</b>	We will deal with a selected group of social problems among which will be: a) the deterioration of the cities, b) the onslaught of information and misinformation, c) the trouble of consumerism, d) old age and social isolation. The aim of this course is to enable and encourage students to approach existing and proposed institutional arrangements critically.
	Usually offered every year.		Usually offered every year.
	Ms. Hayim	Mr. Bittner	
Sociology 165a. <b>Sociology of Birth and Death I</b>	This course will explore the ways in which different societies shape the human experience of birth and death. It will focus on recent changes in the social settings and meanings of birth and death in advanced industrial societies. Topics to be covered include Eastern attitudes towards birth and death, the Holocaust and nuclear war, the social implications of medical technologies and the home birth and hospice movements.	Sociology 174b. <b>Technology and Environment</b>	Nature and human productive activities are looked at in terms of the ways they affect each other. Transformations of the landscape, the evolution of industrial technology, biological change, agriculture and different kinds of environmental impact will be discussed. Farms, factories, forests, wilderness and cities are examined.
	Usually offered every year.		Usually offered every year.
	Mr. Stein	Mr. Fisher	
Sociology 165b. <b>Sociology of Birth and Death II</b>	A continuation of Sociology 165a.	Sociology 176b. <b>Issues in Third World Development</b>	Usually offered every year.
	Usually offered every year.	Staff	
	Mr. Stein		
Sociology 167a. <b>Comparative Social Structures</b>	Usually offered every third year.	Sociology 177b. <b>Aging in Society</b>	This course explores the social aspects of aging and old age in our society. We examine the definition and treatment of age in various societies with an eye for understanding the contemporary Western response to age. We will explore the experience of aging in different settings in our society, and the survival strategies of old age. Fieldwork projects will be encouraged.
	Mr. Ross		Usually offered every year.
		Ms. Reinharz	
Sociology 170b. <b>Industrial Sociology</b>	An examination of the modern industrial production and its implications for the social order. Stress will be placed on the nature of the industrial labor process, the internal organization of industrial institutions (the industrial relations system, unionization, management strategies and practices, bureaucratic and white collar work), and the relationships of industry with the state and the international system.	Sociology 178a. <b>Sociology of the Professions</b>	An introduction to the professions in American society, from law and medicine to the public service, academic and business professions. Topics will include: the structure of careers and professional organizations, the schooling process, personal and family stress, bureaucratic work, relation to clients and government, alternative forms of professional work.
	Usually offered in odd years.		Usually offered in odd years.
	Mr. Ross	Mr. Bittner	
Sociology 171a. <b>Black and Third World Women</b>	This course will examine the position of women of color within the context of certain political, economic, social and cultural transformations occurring in the Third World and the United States. Particular emphasis will be placed on women in the Caribbean and Latin America in order to gain a better understanding of both the similarities and peculiarities of their experiences compared to their North American counterparts. Women of color will speak for themselves (through literature, films, etc.) at the same time that we analyze these more global transformations.	Sociology 179a. <b>The Contemporary American Jewish Family</b>	See NEJS 35a for description.
	Usually offered every year.	Usually offered every year.	
	Ms. Alexander	Staff	

Sociology 181a. <b>Quantitative Methods of Social Inquiry</b>	Sociology is possible because social life is structured and not random. Sociology is needed because the structures are often concealed. This course will introduce students to a variety of simple modeling techniques that may be useful for detecting such structured relationships. As such, it is not a statistics course (e.g., Math 36b) but a course on how to use quantitative tools to think sociologically, to facilitate empirically grounded social inquiry. Although the methods are quantitative, the emphasis is not on their mathematical derivation but on conceptual understanding and hands-on (user-friendly) application. No statistical background is presumed.	Sociology 192b. <b>Sociology of Disability</b>	In the latter half of the twentieth century, disability has emerged as an important social-political-economic-medical issue. It has, however, a distinct history characterized by one writer as a shift from "good will to civil rights." We will trace that history and the way people with disability are seen and unseen, and see themselves. Particular attention will be placed in understanding the self-care/self-help movement. Students will be expected to carry out a field work project.
	Usually offered every year.		Usually offered in odd years.
	Mr. Macy		Mr. Zola
Sociology 182b. <b>World Population</b>	Usually offered in odd years.  Staff	Sociology 190b. <b>Seminar: Writing and the Social Sciences</b>	See Psychology 180b.  Usually offered in even year.  Mr. Rubin in collaboration with Mr. Zola
Sociology 183b. <b>Sociology of Law</b>	The legal order considered in a framework of cross-cultural and historical comparison. The role of the instruments of the law and of the administration of justice in contemporary society.  Usually offered every year.  Mr. Bittner	Sociology 200a. <b>Classical Sociological Theory</b>	Critical readings of the sociologies of Marx, Weber and Durkheim.  Usually offered every year.  Mr. Bittner
Sociology 189b. <b>Introduction to the History of Legal Thought</b>	Usually offered every third year.  Mr. Bittner	Sociology 200b. <b>Contemporary Social Thought</b>	Examination of American and European social thought; system and conflict theory, symbolic interactionism, ethnomethodology and phenomenological sociology and critical theory.  Usually offered in odd years  Ms. Hayim
Sociology 190b. <b>On the Caring of the Medical Care System</b>	An analysis of the structural arrangements of medical practice and of medical settings. Problems of communication and role relationships among professions and between patients and medical personnel will be examined. The impact of structures and role relationships on quality and quantity of medical care and on use of resources will be analyzed.  Usually offered every year.  Ms. Alexander	Sociology 202a. <b>Quantitative Research Methods</b>	This research seminar is designed to involve students in survey and archival data collection and analysis. Technical training will be coupled with explorations of methodological issues centering on the integration of theory and empirical research. Through hands-on assignments, students will learn to use a variety of modeling techniques and associated computer software. Although the methods are quantitative, the emphasis is not on their mathematical derivation but on conceptual understanding and hands-on (user friendly) application. No statistical background is presumed.  Usually offered every year.  Mr. Macy
Sociology 191a. <b>Health, Community, and Society</b>	An exploration into interrelationships of the nature of society and societies on the existence and treatment of health and illness. Topics include conceptions of health and illness, patient careers, and the place of social science in medicine.  Usually offered every year.  Mr. Zola	Sociology 203b. <b>Field Methods</b>	The methodology of sociological field research in the qualitative research tradition. Readings will include theoretical statements as well as experiential accounts of researchers in the field. The course will include specific methods and procedures of data collection (participant observation, interviewing, collaborative research, systematic observation, oral history) and data analysis.  Usually offered in even years.  Ms. Reinhartz

Sociology 204a. <b>Sociology and History</b>	Usually offered every third year. Staff	Sociology 212a. <b>Topics on Women and Development</b>	We examine the relationship between the "development" process and the continued subordination of women in "Third World" countries. The "development" rhetoric which evolved within major international agencies (U.S.A.I.D., World Bank) will be contrasted with the ways in which women have actively structured their lives. Emphasis is placed on women's position in production and reproduction and relationships among the domestic unit, class structure and the larger political economy. Our approach is multidisciplinary and cross cultural with a focus on Asia, Africa, Latin America/Caribbean.
Sociology 205a. <b>Sexual Stratification: Historical and Comparative Perspectives</b>	Usually offered every third year. Staff		Usually offered in odd years. Ms. Alexander
Sociology 206h. <b>The Family</b>	This seminar will study various perspectives in family sociology: structural functionalism, sociobiology, interpretative-interaction, Marxist, feminist. We will examine and critique cross-cultural family research and contemporary approaches to black and other minority group family life. Family dynamics including decision making, domestic labor, reproduction, sexuality, violence, will be studied.  Usually offered every third year. Staff	Sociology 214a. <b>Topics in Social Psychology: Freud and the Freudian Tradition</b>	Usually offered every third year. Staff
Sociology 207a. <b>Feminist Theory</b>	A comprehensive study of various approaches to feminist theory through an examination of ideas and writings which frame the theoretical debates in feminism today, particularly between radical feminists and socialist feminists. This course examines the relationship between theory and practice in terms of feminist activism and devotes particular attention to the intersections of race and class with sex oppression.  Usually offered every third year. Staff	Sociology 215a. <b>The Sociology of State Action</b>	An examination of theories and concepts which have been advanced to explain the dynamics of state action in different social and economic contexts, notably in such advanced capitalistic societies as the USA and in Soviet-type societies, notably in the USSR. Recent discussions of the degree to which the state acts independently of social and economic forces in society will be considered, as will concrete cases of state action.  Usually offered every third year. Staff
Sociology 208a. <b>Seminar in the Sociology of Organization</b>	This course examines classical and contemporary organizational theory primarily through case studies of contemporary organizations in a variety of settings: private corporations, unions, street-level bureaucracies, federal agencies, high-risk technology systems, universities, democratic collectives social change organizations. Critical analysis of issues of power, gender, opportunity; participation will be a focus throughout.  Usually offered every year. Mr. Sirianni	Sociology 216b. <b>The School and Critical Theory</b>	The course analyzes the foundations of critical theory and evaluates its reformation of the concepts and prospects of social change. Readings include Hegel, Gramsci, Lukacs, Marcuse, Habermas, Offe and Sartre.  Usually offered in even years. Ms. Hayim
Sociology 209b. <b>Class and Politics</b>	Usually offered every fourth year. Staff	Sociology 217a. <b>Problems and Issues in the Sociology of Health and Illness</b>	The aim of this course is to offer a socio-cultural-historical-political perspective on the study of problems of health and illness. We will accomplish this by examining some of the basic assumptions underlying the way we conceive of and study issues in health care. The written assignments include a health diary, a text analysis, and a book review.  Usually offered every third year. Mr. Zola
Sociology 210a. <b>The Sociology of Development and Underdevelopment</b>	Usually offered every third year. Staff		
Sociology 211a. <b>Research on Women and Society</b>	Usually offered every third year. Staff		

Sociology 218a. <b>Advanced Topics in Social Theory and Methods: Surrender and Catch</b>	"Surrender" is the most immediate contact with a topic being studied or a situation or individual being encountered; "catch" is its outcome. In this seminar we will explore the relation between the idea of surrender-and-catch and the crisis of mankind from which it springs and trace affinities with other recent currents in the social sciences and philosophy.	Sociology 222b. <b>Society and Health Promotion</b>	This graduate seminar will examine rise and development of prevention and health promotion in American society. We will examine various aspects of the health promotion phenomenon: the emergence of the risk factors paradigm, the wellness movement, government policy (e.g., Surgeon General's Report), research on community and individual intervention and worksite health promotion. The emphasis will be on a sociological understanding of health promotion, especially in terms of its emergence, various manifestations and social consequences.
	Usually offered in even years.		
	Mr. Wolff		
Sociology 218b. <b>Advanced Topics in Social Theory and Methods</b>	Usually offered every third year.		
	Staff		Usually offered every year.
		Mr. Conrad	
Sociology 219a. <b>Social Systems and Political Forms</b>	Usually offered every third year	Sociology 225a. <b>Deviance: Theories and Research</b>	Usually offered every fourth year.
	Staff	Staff	
Sociology 219b. <b>Advanced Topics in Political Sociology: Social Movements</b>	This year's topic will be social movements. Different contemporary approaches to the study of social movements will be reviewed, including collective behavior, rational action, resource mobilization and European "new social movements" theory. Empirical monographs about specific social movements will be considered.	Sociology 226a. <b>Theories in Social Psychology</b>	An examination of some major theorists of self and society, social interaction and interpersonal relations. Theorists considered will include Cooley, Mead, Sullivan, Goffman and Huber.
	Usually offered in odd years.		Usually offered in even years.
	Mr. Ross	Mr. Schwartz	
Sociology 220b. <b>Seminar on the Sociology of Politics</b>	Usually offered every fourth year.	Sociology 227b. <b>Group Process Seminar</b>	Usually offered every third year.
	Staff	Staff	
Sociology 221a. <b>Advanced Topics in Sociological Theory: French Social Thought Since 1945</b>	French social theory since 1945 will be reviewed in the context of French social history and the sociology of intellectuals. Reading will include Existentialists-Marxists (Sartre, Merleau-Ponty), Structuralists (Levi-Strauss, Althusser, Poulanzas), Liberals (Aron, Crozier, Boudon and others), and post-1968 figures such as Michel Foucault, Alain Touraine and Pierre Bourdieu.	Sociology 228a. <b>Themes in Sociological Theory—Phenomenology and Sociology: Alfred Schutz</b>	Usually offered every fourth year.
	Usually offered in even years.		
	Mr. Ross	Staff	
Sociology 221b. <b>Topics in the Sociology of Religion</b>	Usually offered every fourth year.	Sociology 228b. <b>Themes in Sociological Theory</b>	Usually offered every third year.
	Staff	Staff	
		Sociology 230-256a and b. <b>Readings in Sociological Literature</b>	Usually offered every year.
		230a and b. <b>Mr. Bittner</b>	243a and b. <b>Mr. Zola</b>
		233a and b. <b>Mr. Fellman</b>	245a and b. <b>Mr. Conrad</b>
		234a and b. <b>Mr. Fisher</b>	246a and b. <b>Ms. Hayim</b>
		238a and b. <b>Mr. Ross</b>	247a and b. <b>Ms. Barry</b>
		239a and b. <b>Mr. Schwartz</b>	249a and b. <b>Ms. Reinharz</b>
		240a and b. <b>Mr. Stein</b>	253a and b. <b>Ms. Alexander</b>
		242a and b. <b>Mr. Wolff</b>	256a and b. <b>Mr. Macy</b>

Sociology 290a. <b>Pro-Seminar</b>	A seminar meeting once a week in which faculty members introduce their interests and research. <b>Required of all first year graduate students.</b> Other graduate students are welcome to attend.  Usually offered every year.  Mr. Ross	Sociology 401-423d. <b>Dissertation Research</b>	Independent research for the Ph.D. degree.  +15d. Mr. Zola +17d. Ms. Fields +18d. Ms. Hayin +19d. Ms. Barry +20d. Ms. Reinharz +23d. Mr. Conrad +15d. Mr. Bittner +17d. Mr. Fellman +18d. Mr. Fisher +19d. Mr. Ross +21d. Mr. Schwartz +22d. Mr. Stein +24d. Mr. Wolff
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## Spanish

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See Joint Program of Literary Studies

## Theater Arts

### Objectives

The Master of Fine Arts Program in theater arts is designed both to train and to educate — to develop skilled craftsmen of knowledge and judgment about the arts.

Professionally oriented training is offered in three theatrical disciplines: **Acting, Design and Dramatic Writing**.

The production program provides extensive practical experience for all students on and behind the stages of the three Spingold theaters, where the actors act, the designers design and construct and the playwrights have the opportunity to see their accepted plays produced.

### Admission

The general requirements for admission to the graduate school, given in an earlier section of this catalog, apply to candidates for admission to this area of study. Please note, the GRE is not required for theater arts admission. Students apply for admission to one of the three disciplines and, in addition to the standard application procedures, acting applicants are seen in an audition/interview, design applicants attend an interview with portfolio evaluation and dramatic writing applicants submit one or more original playscripts for evaluation.

Acting and design auditions/evaluations are held at Brandeis and at other locations around the country. Information about these auditions/evaluations will be furnished by the department after applications have been received; materials from dramatic writing applicants will be reviewed after applications have been received.

Admission is granted for one academic year at a time. Students in residence must make formal application for readmission to the graduate school by March 1 for the following year.

### Faculty

Adjunct Professor  
**Michael Murray:**  
Director of the  
Theater Arts Program:  
Directing.

Professor  
**James H. Clay:**  
Directing. Theater  
history.

Adjunct Professor  
**Karl Eigsti:**  
Scenic design.

Professor  
**Martin Halpern:**  
Playwriting and  
dramatic literature.

Professor  
**Theodore L.  
Kazanoff:**  
Acting and directing.

Professor  
**Charles W. Moore:**  
Acting and directing.

Visiting Professor  
**Patricia Zippordt:**  
Costume design.

Associate Professor  
**Robert O. Moody:**  
Scene painting.

Associate Professor  
**Maureen Heneghan  
Tripp:**  
Costume design.

Assistant Professor  
**Donna B. Aronson:**  
Voice and speech.

Lecturer with the  
rank of Professor  
**John Bush Jones:**  
Dramatic theory,  
literature and  
criticism.

Lecturer  
**William Anderson:**  
Lighting design.

Lecturer  
**Alexander N. Davis:**  
Voice and speech.

Lecturer  
**Flicka Wilmore:**  
Singing.

Lecturer  
**Robin Wiseman:**  
Costume rendering.

Artist-in-Residence  
**Susan Dibble:**  
Movement for the  
actor.

Artist-in-Residence  
**Daniel Cidron:**  
Acting and directing.

Artist-in-Residence  
**Barbara A. Harris:**  
Stage management.

Artist-in-Residence  
**Theodore Janello:**  
Technical direction.

Artist-in-Residence  
**David Leong:**  
Stage combat.

Artist-in-Residence  
**Denise Loewenguth:**  
Costuming.

Artist-in-Residence  
**Annie Loui:**  
Movement.

Artist-in-Residence  
**Leslie Taylor:**  
Scenic techniques.

## Degree Requirements

### Master of Fine Arts

Residence Requirement.	Acting: three years. Design: three years. Dramatic writing: two years. Dramatic writing with Certification: three years.
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## Programs of Study

### Acting

The acting faculty provides close supervision of class and performance work for first-year actors; second- and third-year actors are the core of the acting company for mainstage and other production activities. The third year for actors may include an internship at a major theater company for one production during the academic year.

First-year actors are not cast in major productions except in rare instances. Second and third year actors are required to audition for and play as cast in all major productions, unless excused by the chairman after consultation with the director.

### Design

Actors are required to serve on a crew for one major production each year (about 60 hours); normally this crew may not be for a play in which the student is also performing. Students are expected to help on crew whenever they have time, regardless of formal credit.

All graduate design students will have the opportunity to be involved in production work as design assistants or designers during the course of the three year program. This program is progressive from year one to year three beginning with basic design and crew work and ending with total production design responsibilities. Production assignments are given each year based on the design students' ability and desire, and consultation with the faculty.

### Dramatic Writing

Dramatic writing students are required to serve on two crews each year (about 120 hours). They are also required to participate in the preparation of any studio, workshop or major production of their plays mounted during the time they are in residence, and this counts as one crew. In rare instances, acting in a major production may count as one crew.

## Courses of Instruction

### Required Courses for First-Year Actors

Theater Arts 201d. <b>Seminar in Dramatic Theory, Method, Literature</b>	Usually offered every year. Mr. Jones
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Theater Arts 203d. <b>Advanced Acting Studies I</b>	Usually offered every year. Messrs. Gidron, Kazanoff and Murray
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Theater Arts 205d. <b>Speech I</b>	Usually offered every year. Mr. Davis
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Theater Arts 207d. <b>Movement for the Actor I</b>	Includes regular fencing classes. Usually offered every year. Ms. Dibble
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Theater Arts 209d. <b>Voice/Speech Studies for the Actor I</b>	Includes regular classes in singing and Alexander Technique. Usually offered every year. Ms. Aronson
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Theater Arts 225d. <b>Production Laboratory I</b>	Usually offered every year. Mr. Janello
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Theater Arts 233d. <b>Singing I</b>	Group tutorial. Usually offered every year. Ms. Wilmore
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### Required Courses for Second-Year Actors

Theater Arts 204d. <b>Advanced Acting Studies II</b>	Continuing work in exploration of process which integrates self and text through study of Laban, Chekov and techniques which help actor objectify emotion. Scoring now includes through-line and overall objective. Scenes from all of dramatic literature.
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Theater Arts 206d. <b>Speech II</b>	Usually offered every year. Messrs. Gidron, Kazanoff and Moore
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Theater Arts 208d. <b>Movement for the Actor II</b>	Usually offered every year. Mr. Davis
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Theater Arts 208d. <b>Movement for the Actor II</b>	Includes regular classes in fencing when available. Usually offered every year. Ms. Dibble
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Theater Arts 210d. <b>Voice Studies for the Actor II</b>	Includes regular classes in singing and Alexander Technique. Usually offered every year. Ms. Aronson and Mr. Davis
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Theater Arts 213d. <b>Directing</b>	Usually offered every year. Mr. Murray
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Theater Arts 226d. <b>Production Laboratory II</b>	Usually offered every year. Mr. Janello
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Theater Arts 234d. <b>Singing II</b>	Group tutorial. Usually offered every year. Ms. Wilmore	Theater Arts 219d. <b>Lighting Design and Mechanics I</b>	Laboratory fee to be arranged. Usually offered every year. Mr. Anderson
<b>Required Courses for Third-Year Actors</b>			
Theater Arts 301d. <b>Advanced Acting Studies III</b>	Includes a weekly scene workshop. Usually offered every year. Mr. Moore	Theater Arts 221d. <b>Costume Studies, Basic Drawing and Perspective Drawing</b>	Usually offered every year. Mr. Wiseman
Theater Arts 302d. <b>Movement for the Actor III</b>	Tutorial. Usually offered every year. Ms. Dibble	Theater Arts 222d. <b>Drafting</b>	Laboratory fee to be arranged. Usually offered every year. Mr. Janello
Theater Arts 303d. <b>Voice Studies for the Actor III</b>	Includes regular classes in singing and Alexander Technique. Usually offered every year. Ms. Aronson and Mr. Davis	Theater Arts 225d. <b>Production Laboratory I</b>	Usually offered every year. Mr. Janello
Theater Arts 304d. <b>Rehearsal and Performance</b>	Usually offered every year. Acting Faculty	Theater Arts 230d. <b>Life Drawing I</b>	Laboratory fee determined by enrollment. Usually offered every year. Mr. Moody
Theater Arts 305d. <b>Speech III</b>	Usually offered every year. Mr. Davis	Theater Arts 237d. <b>Design Production I</b>	Design students assist in the areas of production: scenic arts, props, hair and makeup, millinery, costume and lighting. Usually offered every year. Design Faculty
<b>Required Courses for Second-Year Designers</b>			
Theater Arts 325d. <b>Production Laboratory III</b>	Mr. Janello and Staff	Theater Arts 212d. <b>Scenic Design II</b>	Usually offered every year. Mr. Eigsti
Theater Arts 334d. <b>Singing III</b>	Usually offered every year. Ms. Wilmore	Theater Arts 218d. <b>Costume Design II</b>	Usually offered every year. Ms. Zippordt
<b>Required Courses for First-Year Designers</b>			
Theater Arts 201d. <b>Seminar in Dramatic Theory, Method, Literature</b>	Usually offered every year. Mr. Jones	Theater Arts 220d. <b>Lighting Design II</b>	Laboratory fee to be arranged. Usually offered every year. Mr. Anderson
Theater Arts 211d. <b>Scenic Design I</b>	Usually offered every year. Mr. Eigsti and Ms. Taylor	Theater Arts 223d. <b>Scene Painting I</b>	Usually offered every year. Mr. Moody
Theater Arts 214d. <b>Costume Pattern Drafting</b>	Laboratory fee to be arranged. Usually offered every year. Ms. Loewenguth	Theater Arts 224d. <b>Stage Mechanics</b>	Laboratory fee to be arranged. Usually offered every year. Mr. Janello
Theater Arts 217d. <b>Costume Design</b>	Usually offered every year. Ms. Zippordt	Theater Arts 226d. <b>Production Laboratory II</b>	Usually offered every year. Mr. Janello

Theater Arts 227d. <b>Sketching and Rendering I</b>	Usually offered every year.	Theater Arts 310b. <b>Thesis Projects</b>	The graduate design thesis is a full-scale project which grows out of the periodic portfolio reviews. It may be either a realized or nonrealized project.
Section A:	Costume Rendering Ms. Newhall		Design Faculty
Section B:	Set Rendering Mr. Moody	Theater Arts 325d. <b>Production Laboratory III</b>	Usually offered every year. Mr. Janello and Staff
Theater Arts 228d. <b>Scenic Crafts</b>	Laboratory fee to be arranged. Usually offered every year. Mr. Moody		<b>Required Courses for First-Year Playwrights</b>
Theater Arts 232d. <b>Costume Construction</b>	Usually offered every year. Ms. Loewenguth	Theater Arts 201d. <b>Seminar in Dramatic Theory, Method, Literature</b>	Usually offered every year. Mr. Jones
Theater Arts 235d. <b>History of Costume and Decorative Arts</b>	Usually offered every year. Ms. Tripp	Theater Arts 215e. <b>Workshop in Dramatic Writing I</b>	A double-credit course. Usually offered every year. Mr. Halpern
Theater Arts 238d. <b>Design Production II</b>	Design students will serve as assistants to the designers in the areas of scenery, costumes and lighting. Usually offered every year. Design Faculty	Theater Arts 225d. <b>Production Laboratory: I</b>	Usually offered every year. Mr. Janello and Staff
			In addition, one full-year elective course.
<b>Required Courses for Third-Year Designers</b>			
Theater Arts 239d. <b>Design Production III</b>	Design students will be assigned shows to design in their specialized field of interest: scenery, costumes and lighting. In addition, assignments in scene painting, mask making, props and specialized costume accessories will also be given to design students who have achieved an advanced craft skills level in the course of the three year program. Usually offered every year. Design Faculty	Theater Arts 202d. <b>Seminar in Dramatic Structure</b>	Usually offered every year. Mr. Jones
Theater Arts 242d. <b>Scenic Design III</b>	Usually offered every year. Mr. Eigsti	Theater Arts 216e. <b>Workshop in Dramatic Writing II</b>	A double-credit course. Usually offered every year. Mr. Halpern
Theater Arts 243d. <b>Costume Design III</b>	Usually offered every year. Staff	Theater Arts 226d. <b>Production Laboratory II</b>	Usually offered every year. Mr. Janello and Staff
Theater Arts 244d. <b>Costume Rendering II</b>	Usually offered every year. Ms. Newhall	Theater Arts 310b. <b>Thesis Projects</b>	Usually offered every year. Mr. Halpern
Theater Arts 245d. <b>Draping/Costume Crafts</b>	Usually offered every year. Ms. Loewenguth		In addition, one full-year elective course.
Theater Arts 246d. <b>Lighting Design III</b>	Usually offered every year. Mr. Anderson	<b>Required Courses for Third-Year Playwrights</b>	
		Theater Arts 300d. <b>Independent Study</b>	Usually offered every year. Staff
		Theater Arts 315e. <b>Workshop in Dramatic Writing III</b>	A double-credit course. Usually offered every year. Mr. Halpern

Theater Arts 325d. <b>Production</b>	Usually offered every year.	Theater Arts 190a. <b>A Study of Acting Theory and Method as They Relate to Twentieth-Century Theater</b>	Usually offered in odd years.
<b>Laboratory III</b>	Mr. Janello and Staff	Mr. Kazanoff	

In addition, one full-year elective course. Students may take the following Theater Arts courses as electives as well as approved courses in other departments.

Theater Arts 101c. <b>Stage Management</b>	Usually offered every year.	Theater Arts 190b. <b>A Study of Directing Theory and Method as They Relate to Twentieth-Century Theater</b>	Usually offered in odd years.
	Ms. Harris	Mr. Kazanoff	

# University Organization

## Board of Trustees

Under Massachusetts law, the 50-member Board of Trustees is the governing body of the University. There are also four faculty representatives and three student representatives to the board who participate in Board meetings and have votes on the several committees. The chairman of the Fellows, the president of the National Women's Committee and the president of the Alumni Association serve *ex-officio*. Alumni elect annually an Alumni Term Trustee who serves as full voting trustee for a five-year term.

## The President

The President, the chief executive officer of the University, is appointed by the Board of Trustees and is responsible for all university activities.

## Chancellor Emeritus

Chancellor Emeritus of the University is an honorary title held by Brandeis' Founding President Abram L. Sachar.

## University Fellows

University Fellows comprise about 400 national leaders from a broad base of business, educational and public life who lend counsel, expertise and support to university development and planning programs.

## The President's Council

President's Councilors are leading men and women throughout the country whose skills and experience are placed at the disposal of the Brandeis president in areas of their special competence.

## The Provost and Deans

The Provost and Dean of the Faculty, the chief academic officer of the University, supervises academic policy, undergraduate and graduate curricula, the faculty and its departments of instruction.

The Dean of the College of Arts and Sciences assumes responsibility for many areas affecting the academic lives of undergraduates, including curriculum development, advisory services and the academic progress of students.

The Dean of the Graduate School of Arts and Sciences oversees the individualized programs of graduate study for scholars, scientists and artists in 20 disciplines.

The Dean of the Florence Heller School for Advanced Studies in Social Welfare oversees the academic activities of the University's first and only professional school and its work in such areas as health, aging, income and employment and minorities.

The Dean of Student Affairs is responsible for many areas of student life, including student activities, residence life, career planning and placement, health service and athletics.

## The Faculty Senate

The Faculty Senate, the elected representative body of the faculty, discusses such issues as academic freedom and responsibility, university policy, appointments, tenure, dismissal and salaries.

## The Vice Presidents

The Executive Vice President for Finance and Administration oversees Brandeis' complete financial and administrative support operations. The major responsibilities include budgeting and planning, capital programs, endowment and investment management, library services, computer services, telecommunications, plant operations, employee relations, security, materials management and community relations. The Executive Vice President also serves as principal liaison with the Budget and Finance, Investment and Facilities committees of the Board of Trustees.

The Senior Vice President for Development and Alumni Relations is responsible for directing the institutional relations of the University related to fundraising and alumni.

The Vice President for Communications and Public Relations is responsible for the University's communications, including such publications as the *Brandeis Review*, the *Brandeis Reporter*, newsletters and brochures and external relations, including media relations. She also serves as the University's principal legislative and federal relations officer and provides liaison with certain national organizations.

The Vice President for Alumni Relations is responsible for directing and coordinating programs and publications for all Brandeis alumni, the National Alumni Association, regional alumni chapters and the Alumni Fund.

The Vice President and University Treasurer is responsible for the financial administration and business operations of the University and for endowment management, the controllership function and related financial programs.

The Vice President for Administrative Affairs is responsible for campus facilities, grounds and administrative operations.

## National Women's Committee

The National Women's Committee, now an organization of more than 65,000 members, has been a partner with the University since 1948. This volunteer organization gives its membership a wide range of educational offerings. These include unique study group programs with syllabi provided by Brandeis faculty; adult education seminars in local communities called "University on Wheels"; and special lectures by university speakers. The 126 chapters across the country are embassies of good will for the University. The central commitment of the Women's Committee, however, is to the Brandeis University libraries. Since it was founded by eight members in Boston, it has contributed nearly 30 million dollars in support of the libraries.

## Board of Trustees

### The Graduate Council

The members of the Graduate Council of the Graduate School of Arts and Sciences are appointed annually by the President of the University. Members of the Graduate Council for 1987-88 are:

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*B.S., Michigan State University*

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Assistant Professor of Near Eastern and Judaic Studies  
*Ph.D., Brandeis University '86*

**Faina Broude**  
Lecturer in Russian  
*M.A., University of Moscow*

**Edgar H. Brown, Jr.**  
Jennie Sapirstein Professor of Mathematics  
*Ph.D., Massachusetts Institute of Technology*

**Seyom Brown**  
Professor of Politics  
*Ph.D., University of Chicago*

**Carolyn Bruse**  
Lecturer in Music  
*Ph.D., Brandeis University '87*

**David A. Buchsbaum**  
Professor of Mathematics  
*Ph.D., Columbia University*

**Steven L. Burg**  
Associate Professor of Politics  
*Ph.D., University of Chicago*

**Richard Burr**  
Lecturer in Physical Education  
*B.S., University of Massachusetts Amherst*

**John Davies Burt**  
Assistant Professor of English  
*Ph.D., Yale University*

**Graham B. Campbell**  
Associate Professor of Fine Arts  
*M.F.A., Yale University*

**Karl F. Canter**  
Associate Professor of Physics  
*Ph.D., Wayne State University*

**Qizhen Cao**  
Lecturer in Chinese  
*B.A., Nankai University*

**Jeffrey Carnes**  
Lecturer in Classics  
*Ph.D., University of North Carolina*

**Anne P. Carter**  
Fred C. Hecht Professor of Economics  
*Ph.D., Harvard University*

**Donald L. D. Caspar**  
Professor of Physics and Acting Director, Rosenstiel Basic Medical Sciences Research Center  
*Ph.D., Yale University*

**Eric Chafe**  
Assistant Professor of Music  
*Ph.D., University of Toronto*

**Iu-Yam Chan**  
Professor of Chemistry  
*Ph.D., University of Chicago*

**Yong Seung Cho**  
Lecturer in Mathematics  
*M.S., Kyungpook National University*

**Max Chrétien**  
Associate Professor of Physics  
*Ph.D., University of Basel*

**James H. Clay\*\***  
Professor of Theater Arts  
*Ph.D., University of Illinois*

**Carolyn Cohen**  
Professor of Biology and Rosenstiel Basic Medical Sciences Research Center  
*Ph.D., Massachusetts Institute of Technology*

**David E. Cohen**  
Lecturer in Music  
*B.A., State University of New York, Stony Brook*

**Jacob Cohen**  
Associate Professor of American Studies  
*M.A., Yale University*

**Jacques Cohen**  
Zayre/Feldberg Professor of Computer Science  
*Ph.D., University of Illinois and Dr. Sc., University of Grenoble*

**Martin Cohn**  
Lecturer in Computer Science  
*Ph.D., Harvard University*

**Samuel K. Cohn, Jr.\*\***  
Associate Professor of History  
*Ph.D., Harvard University*

<b>Peter Conrad</b> Associate Professor of Sociology <i>Ph.D., Boston University</i>	<b>David J. DeRosier***</b> Professor of Biology and Rosenstiel Basic Medical Sciences Research Center <i>Ph.D., University of Chicago</i>	<b>Edward Engelberg</b> Professor of Comparative Literature <i>Ph.D., University of Wisconsin</i>	<b>Charles S. Fisher*</b> Associate Professor of Sociology <i>Ph.D., University of California, Berkeley</i>	<b>Lawrence H. Fuchs*</b> Meyer and Walter Jaffe Professor in American Civilization and Politics <i>Ph.D., Harvard University</i>	<b>D. Neil Comberg</b> Assistant Professor of Anthropology <i>Ph.D., University of Massachusetts, Amherst</i>
<b>Michael W. Coven</b> Lecturer in Physical Education <i>Ed.M., Springfield College</i>	<b>Stanley Deser***</b> Enid and Nathan S. Ancell Professor of Physics <i>Ph.D., Harvard University</i>	<b>Herman T. Epstein</b> Professor of Biophysics <i>Ph.D., University of Michigan</i>	<b>Philip Fisher***</b> Professor of English <i>Ph.D., Harvard University</i>	<b>Chandler M. Fulton</b> Professor of Biology <i>Ph.D., Rockefeller Institute</i>	<b>Francisca Gonzalez-Arias</b> Lecturer with Rank of Assistant Professor of Spanish <i>Ph.D., Harvard University</i>
<b>George L. Cowgill***</b> Professor of Anthropology <i>Ph.D., Harvard University</i>	<b>Irving R. Epstein***</b> Professor of Chemistry <i>Ph.D., Harvard University</i>	<b>Anthony Espósito</b> Lecturer in Spanish <i>M.S., Southern Connecticut State College</i>	<b>David Fishman</b> Assistant Professor of East European Jewish History and Culture (Near Eastern and Judaic Studies) <i>Ph.D., Harvard University</i>	<b>Joachim E. Gaehde</b> Sydney and Ellen Wien Professor in the History of Art <i>Ph.D., New York University</i>	<b>Eugene Goodheart***</b> Edith Macy Gross Professor of Humanities and Director, Humanities Center <i>Ph.D., Columbia University</i>
<b>Linda Gregg</b> Lecturer in French and Language Coordinator <i>M.A., Boston University</i>	<b>Susan Dibble</b> Artist-in-Residence (Theater Arts) <i>Ph.D., Brandeis University '87</i>	<b>Robert Evans, Jr.</b> Atran Professor of Labor Economics <i>Ph.D., University of Chicago</i>	<b>William Fleisch</b> Assistant Professor of English and American Literature <i>Ph.D., Cornell University</i>	<b>Tanya Gardiner-Scott</b> Lecturer in English <i>Ph.D., University of Toronto</i>	<b>Paul Gootenberg</b> Assistant Professor of Latin American History <i>Ph.D., University of Chicago</i>
<b>Joseph Cunningham</b> Assistant Professor of Psychology <i>Ph.D., Vanderbilt University</i>	<b>Paul DiZio</b> Lecturer in Psychology <i>Ph.D., Brandeis University</i>	<b>John Evans-Klock</b> Lecturer in Economics <i>B.A., University of California, San Diego</i>	<b>Richard Ford</b> Artist-in-Residence (Music) <i>B.Mus., New England Conservatory of Music</i>	<b>Stephen J. Gendzier</b> Associate Professor of French <i>Ph.D., Columbia University</i>	<b>Moshe Gottstein</b> Joseph and Esther Foster Visiting Professor of Bible and Hebrew Philology <i>Ph.D., The Hebrew University (The Hebrew University)</i>
<b>Charles Cutter</b> Lecturer in Near Eastern and Judaic Studies <i>Ph.D., Ohio State University</i>	<b>F. Trener Dolbear, Jr.</b> Clinton S. Darling Professor of Economics <i>Ph.D., Yale University</i>	<b>Gerald D. Fasman</b> Louis and Bessie Rosenfeld Professor of Biochemistry <i>Ph.D., California Institute of Technology</i>	<b>Dian Fox</b> Associate Professor of Spanish and Comparative Literature <i>Ph.D., Duke University</i>	<b>Stefan Gerlach</b> Assistant Professor of Economics <i>D.Sc., University of Geneva</i>	<b>Dominique Grandclaudon</b> Lecturer in French <i>M.A., Princeton University</i>
<b>Denise Dallamora</b> Lecturer in Physical Education <i>B.S., Northeastern University</i>	<b>Eysev D. Domar</b> Visiting Professor of Economics <i>Ph.D., Harvard University</i>	<b>Eric Fassin</b> Lecturer in French <i>M.A., University of Paris</i>	<b>Marvin Fox***</b> Philip W. Low Professor of Jewish Philosophy and Director, Low School <i>Ph.D., University of Chicago</i>	<b>Ira M. Gessel</b> Associate Professor of Mathematics and Computer Science <i>Ph.D., Massachusetts Institute of Technology</i>	<b>Ashton Graybiel</b> Adjunct Professor of Psychology <i>M.D., Harvard University</i>
<b>Lorraine J. Duston*</b> Dibner Associate Professor in the History of Science <i>Ph.D., Harvard University</i>	<b>Emily P. Dudek</b> Adjunct Associate Professor of Chemistry <i>Ph.D., Radcliffe College</i>	<b>Gordon A. Fellman***</b> Associate Professor of Sociology <i>Ph.D., University of Bristol</i>	<b>Bruce M. Foxman</b> Professor of Chemistry <i>Ph.D., Massachusetts Institute of Technology</i>	<b>Martin Gibbs</b> Abraham S. and Gertrude Burg Professor in Life Sciences <i>Ph.D., University of Illinois</i>	<b>Robert S. Greenberg**</b> Associate Professor of Philosophy <i>Ph.D., University of Chicago</i>
<b>Olga Davidson</b> Lecturer in University Studies-Humanities <i>B.A., Boston University</i>	<b>James E. Duffy</b> Professor of African and Afro-American Studies <i>Ph.D., Harvard University</i>	<b>Henry Felt</b> Lecturer in American Studies <i>B.A., Goddard College</i>	<b>Gregory L. Freeze</b> Professor of History <i>Ph.D., Columbia University</i>	<b>Daniel Gidron</b> Artist-in-Residence (Theater Arts) <i>M.F.A., Brandeis University</i>	<b>Jane B. Grimshaw***</b> Associate Professor of Linguistics <i>Ph.D., University of Massachusetts, Amherst</i>
<b>Alexander N. Davis</b> Lecturer in Voice and Speech <i>M.A., The University of Akron</i>	<b>Karl Eigsti</b> Adjunct Professor of Scenic Design (Theater Arts) <i>M.A., University of Bristol</i>	<b>Karen E. Fields*</b> Associate Professor of Sociology <i>Ph.D., Brandeis University '77</i>	<b>Eberhard Frey</b> Associate Professor of German <i>Ph.D., Cornell University</i>	<b>Michael T. Gilmore***</b> Professor of English <i>Ph.D., Harvard University</i>	<b>Marcus T. Grisaru</b> Professor of Physics <i>Ph.D., Princeton University</i>
<b>Beth Davis</b> Lecturer in Education <i>M.Ed., Boston College</i>	<b>David Eisenbud***</b> Professor of Mathematics <i>Ph.D., University of Chicago</i>	<b>David Hackett Fischer</b> Earl Warren Professor of History <i>Ph.D., The Johns Hopkins University</i>	<b>Sylvia Fuks Fried</b> Lecturer in Yiddish <i>B.A., The Hebrew University (on the Jacob D. Berg Fund)</i>	<b>Jack S. Goldstein**</b> Professor of Astrophysics <i>Ph.D., Cornell University</i>	<b>Ruth Gollan</b> Lecturer with rank of Associate Professor of Near Eastern and Judaic Studies and Director, Hebrew Language Program <i>M.A., University of California, Santa Barbara</i>
<b>Lennard Davis</b> Assistant Professor of English and American Literature <i>Ph.D., Columbia University</i>	<b>Judith Eisenberg</b> Artist-in-Residence (Music) <i>M.M., Yale University</i>	<b>Michael Fishbane</b> Samuel Lane Professor of Jewish Religious History and Social Ethics <i>Ph.D., Brandeis University '71</i>	<b>Linda S. Frisch</b> Lecturer with rank of Assistant Professor of Germanic Languages and Literature <i>M.A., University of California, Santa Barbara</i>	<b>On leave Fall Term 1987-1988*</b>	<b>On leave Spring Term 1987-1988**</b>
<b>Naomi De-Malach</b> Lecturer in Hebrew <i>B.A., The Hebrew University</i>				<b>On leave 1987-1988***</b>	<b>On leave 1987-1988****</b>

<b>Eugene P. Gross</b> Edward and Gertrude Swartz Professor of Theoretical Physics <i>Ph.D., Princeton University</i>	<b>K. C. Hayes</b> Professor of Biology and Director, Foster Biomedical Research Laboratories <i>Ph.D., University of Connecticut</i>	<b>Judith A. Houde</b> Lecturer in Physical Education <i>M.S.Ed., University of Tennessee</i>	<b>David Jacobson</b> Associate Professor of Anthropology <i>Ph.D., University of Rochester</i>	<b>John Bush Jones</b> Lecturer with rank of Professor of Theater Arts <i>Ph.D., Northwestern University</i>	<b>Marcel Kinsbourne</b> Adjunct Professor of Psychology <i>D.M., Oxford University</i>
<b>Allen R. Grossman</b> Paul E. Prosserwimer Professor of Poetry and General Education <i>Ph.D., Brandeis University '60</i>	<b>Gila J. Hayim</b> Associate Professor of Sociology <i>Ph.D., University of Pennsylvania</i>	<b>Elisabeth Howe</b> Lecturer in French <i>M.A., Harvard University</i>	<b>Pierre-Yves Jacquin</b> Assistant Professor of Anthropology <i>Ph.D., University of Neuchâtel</i>	<b>Peter C. Jordan</b> Professor of Chemistry <i>Ph.D., Yale University</i>	<b>Lawrence E. Kirsch</b> Professor of Physics <i>Ph.D., Rutgers University</i>
<b>Ernest Grunwald</b> Henry F. Fischbach Professor of Chemistry <i>Ph.D., University of California, Los Angeles</i>	<b>Peter Heller*</b> Professor of Physics <i>Ph.D., Harvard University</i>	<b>Jane Hughes</b> Adjunct Professor of Economics <i>M.B.A., New York University</i>	<b>Theodore Janello</b> Artist-in-Residence (Theater Arts) <i>M.A., University of Connecticut</i>	<b>William Kapelle</b> Associate Professor of History <i>Ph.D., University of Massachusetts</i>	<b>Attila O. Klein***</b> Professor of Biology <i>Ph.D., Indiana University</i>
<b>James E. Haber**</b> Professor of Biology and Rosenthal Basic Medical Sciences Research Center <i>Ph.D., University of California, Berkeley</i>	<b>Michael J. Hanchman</b> Professor of Chemistry <i>Ph.D., Yale University</i>	<b>Peter Hughes</b> Visiting Professor of English and American Literature <i>Ph.D., Yale University (University of Zurich)</i>	<b>Paul Jankowski</b> Lecturer in History <i>B.A., Oxford University</i>	<b>Edward K. Kaplan</b> Professor of French <i>Ph.D., Columbia University</i>	<b>Karen Wilk Klein</b> Associate Professor of English <i>Ph.D., Columbia University</i>
<b>Jane Hale</b> Assistant Professor of French and Comparative Literature <i>Ph.D., Stanford University</i>	<b>James B. Hendrickson</b> Professor of Chemistry <i>Ph.D., Harvard University</i>	<b>Mark L. Hulling</b> Professor of Politics <i>Ph.D., Harvard University</i>	<b>Anne F. Janowitz</b> Assistant Professor of English and American Literature and Dana Faculty Fellow <i>Ph.D., Stanford University</i>	<b>Thomas Kappeler</b> Lecturer with rank of Associate Professor of Mathematics <i>Ph.D., Eidgenössische Technische Hochschule</i>	<b>James Kloppenberg***</b> Associate Professor of History <i>Ph.D., Stanford University</i>
<b>Jeffrey C. Hall**</b> Professor of Biology <i>Ph.D., University of Wisconsin</i>	<b>Judith Herzfeld</b> Associate Professor of Biophysical Chemistry <i>Ph.D., Massachusetts Institute of Technology</i>	<b>Hugh E. Huxley</b> Professor of Biology and Rosenthal Basic Medical Sciences Research Center <i>D.Sc., Cambridge University</i>	<b>Gary H. Jefferson</b> Associate Professor of Anthropology <i>Ph.D., Northwestern University</i>	<b>Kathleen M. Karrer</b> Assistant Professor of Biology <i>Ph.D., Yale University</i>	<b>Raymond Knight*</b> Professor of Psychology <i>Ph.D., University of Minnesota</i>
<b>Debra Lynn Halpern</b> Assistant Professor of Physiological Psychology <i>Ph.D., Northwestern University</i>	<b>Christine L. Heyrman</b> Associate Professor of History <i>Ph.D., Yale University</i>	<b>Audrei Jacob</b> Joseph and Esther Foster Visiting Assistant Professor of Mathematics <i>Ph.D., Weizmann Institute</i>	<b>William P. Jencks*</b> Gyula and Katica Tauber Professor of Biochemistry and Molecular Pharmacodynamics <i>M.D., Harvard University</i>	<b>Tamar Katz-Moshaiov</b> Lecturer in Hebrew <i>B.A., Tel Aviv University</i>	<b>Ann O. Koloski-Ostrow</b> Lecturer with rank of Assistant Professor of Classics <i>Ph.D., University of Michigan</i>
<b>Martin Halpern</b> Samuel and Sylvia Schulman Professor of Theater Arts <i>Ph.D., Harvard University</i>	<b>Timothy J. Hickey</b> Assistant Professor of Computer Science <i>Ph.D., University of Chicago</i>	<b>Donald Hindley</b> Professor of Politics <i>Ph.D., Australian National University</i>	<b>Eric Jensen</b> Assistant Professor of Physics <i>Ph.D., Cornell University</i>	<b>Theodore L. Kazanoff</b> Blanche, Barbara and Irving Laurie Professor of Theater Arts <i>M.A., Smith College</i>	<b>Kenneth Kustin</b> Professor of Chemistry <i>Ph.D., University of Minnesota</i>
<b>Barbara A. Harris</b> Artist-in-Residence (Theater Arts) <i>M.F.A., Yale University</i>	<b>Kiyoshi Igusa</b> Associate Professor of Mathematics <i>Ph.D., Princeton University</i>	<b>Judith T. Irvine</b> Associate Professor of Anthropology <i>Ph.D., University of Pennsylvania</i>	<b>Leon A. Jick</b> Helen and Irving Schneider Professor of American Jewish Studies <i>Ph.D., Columbia University</i>	<b>Philip M. Keuhn</b> Professor of Chemistry <i>Ph.D., Yale University</i>	<b>Margie Lachman</b> Associate Professor of Psychology <i>Ph.D., Pennsylvania State University</i>
<b>Michael Harris</b> Associate Professor of Mathematics <i>Ph.D., Harvard University</i>	<b>James Hollifield</b> Assistant Professor of Politics <i>Ph.D., Duke University</i>	<b>Alfred L. Ivry</b> Walter Stern Hilborn Professor of Near Eastern and Judaic Studies <i>D.Phil., Oxford University</i>	<b>William A. Johnson**</b> Albert V. Daniels Professor of Philosophy and Christian Thought <i>Ph.D., Columbia University</i>	<b>Allan R. Keiler</b> Professor of Music <i>Ph.D., Harvard University</i>	<b>Robert V. Lange</b> Associate Professor of Physics <i>Ph.D., Harvard University</i>
<b>Erica Harth</b> Professor of French and Comparative Literature <i>Ph.D., Columbia University</i>	<b>Thomas C. Hollocher, Jr.</b> Professor of Biochemistry <i>Ph.D., University of Rochester</i>	<b>Ray S. Jackendoff</b> Professor of Linguistics <i>Ph.D., Massachusetts Institute of Technology</i>	<b>Patricia A. Johnston</b> Associate Professor of Classical and Oriental Studies <i>Ph.D., University of California, Berkeley</i>	<b>Alice A. Kelikian**</b> Assistant Professor of History and Manheimer Term Assistant Professor of University Studies <i>D.Phil., Oxford University</i>	<b>Richard H. Lansing</b> Associate Professor of Italian and Comparative Literature <i>Ph.D., University of California, Berkeley</i>
<b>Sara Hasel</b> Lecturer in Hebrew					<b>Morton Keller</b> Samuel J. and Augusta Spector Professor of History <i>Ph.D., Harvard University</i>
					<b>Kevin S. Larsen**</b> Assistant Professor of Spanish and Comparative Literature <i>Ph.D., Harvard University</i>
					<b>Reuben R. Kimelman</b> Associate Professor of Near Eastern and Judaic Studies <i>Ph.D., Yale University</i>
					On leave Fall Term 1987-1988*
					On leave Spring Term 1987-1988**
					On leave 1987-1988***

<b>Florence Leconte</b> Lecturer in Mathematics <i>M.A., University of Paris</i>	<b>Susan Lichtman</b> Assistant Professor of Fine Arts <i>M.F.A., Yale University</i>	<b>Eve E. Marder</b> Associate Professor of Biology <i>Ph.D., University of California, San Diego</i>	<b>Robert B. Meyer</b> Professor of Physics <i>Ph.D., Harvard University</i>	<b>Ricardo B. Morant*</b> Minnie and Harold L. Fierman Professor of Psychology <i>Ph.D., Clark University</i>	<b>Wellington W. Nyangoni</b> Professor of African and Afro-American Studies <i>Ph.D., Howard University</i>
<b>Israel Levin</b> Visiting Professor of Hebrew Literature <i>Ph.D., The Hebrew University (Tel Aviv University)</i>	<b>Henry Linschitz</b> Heleno Rubinstein Professor of Chemistry <i>Ph.D., Duke University</i>	<b>Esta Markin</b> Lecturer in English and American Literature <i>M.A., Fairleigh Dickinson University</i>	<b>Helena R. Michie**</b> Assistant Professor of English and American Literature and Manheimer Term Assistant Professor of University Studies <i>Ph.D., University of Pennsylvania</i>	<b>Ruth Schachter Morgenthau</b> Adlai E. Stevenson Professor of International Politics <i>Ph.D., Oxford University</i>	<b>Mary Nyquist</b> Visiting Associate Professor of English <i>Ph.D., University of Toronto</i>
<b>Martin A. Levin</b> Professor of Politics and Director, Gordon Public Policy Center <i>Ph.D., Harvard University</i>	<b>John E. Lisman</b> Professor of Biology <i>Ph.D., Massachusetts Institute of Technology</i>	<b>Peter Markman</b> Assistant Professor of Fine Arts <i>M.F.A., Southern Illinois University</i>	<b>Sidney Milkis</b> Assistant Professor of Politics <i>Ph.D., University of Pennsylvania</i>	<b>Paul A. Morrison</b> Assistant Professor of English and American Literature (on the Mellon Foundation) <i>Ph.D., University of Toronto</i>	<b>Kevin O'Brien</b> Lecturer in Physical Education <i>B.A., Tufts University</i>
<b>Harold I. Levine**</b> Professor of Mathematics <i>Ph.D., University of Chicago</i>	<b>Elaine P. Loeffler**</b> Associate Professor of Fine Arts <i>B.A., Smith College</i>	<b>Robert L. Marshall</b> Louis, Frances and Jeffrey Sachar Professor of Music <i>Ph.D., Princeton University</i>	<b>Christopher Miller</b> Professor of Biochemistry <i>Ph.D., University of Pennsylvania</i>	<b>Leonard C. Muellner</b> Associate Professor of Classical and Oriental Studies <i>Ph.D., Harvard University</i>	<b>Takashi Odagaki</b> Assistant Professor of Physics <i>Dr. Sc., Kyoto University</i>
<b>Jerome P. Levine**</b> Professor of Mathematics <i>Ph.D., Princeton University</i>	<b>Annie Loui***</b> Artist-in-Residence (Theater Arts)	<b>Danielle Marx-Scouras</b> Assistant Professor of Romance and Comparative Literature <i>Ph.D., Columbia University</i>	<b>James Miller</b> Assistant Professor of Computer Science <i>Ph.D., Massachusetts Institute of Technology</i>	<b>William T. Murakami</b> Associate Professor of Biochemistry <i>Ph.D., University of Southern California</i>	<b>Susan Moller Okin</b> Associate Professor of Politics <i>Ph.D., Harvard University</i>
<b>Lawrence Levine</b> Professor of Biochemistry (American Cancer Society Professorship) <i>Sc.D., The Johns Hopkins University</i>	<b>John M. Lowenstein</b> Heleno Rubinstein Professor of Biochemistry <i>Ph.D., London University</i>	<b>Teruhisa Matsusaka</b> Berenson Professor of Mathematics <i>Dr.Sc., Kyoto University</i>	<b>Robin Miller</b> Associate Professor of Russian <i>Ph.D., Columbia University</i>	<b>David W. Murray</b> Assistant Professor of Anthropology <i>Ph.D., University of Chicago</i>	<b>Rudolf Oldenbourg</b> Assistant Professor of Physics <i>Ph.D., University of Konstanz</i>
<b>Norman E. Levine</b> Associate Professor of Physical Education <i>B.S., Bates College</i>	<b>Susan Lowey</b> Professor of Biochemistry and Rosenthal Basic Medical Sciences Research Center <i>Ph.D., Yale University</i>	<b>Alan L. Mayer**</b> Professor of Mathematics <i>Ph.D., Princeton University</i>	<b>Ivan Mirković</b> Assistant Professor of Mathematics <i>Ph.D., University of Utah</i>	<b>Michael Murray</b> Director of the Theater Arts Program and Adjunct Professor of Theater Arts <i>M.F.A., Boston University</i>	<b>Dora Old</b> Lecturer with rank of Assistant Professor of Spanish <i>Ph.D., Brown University</i>
<b>Alan Levitan</b> Associate Professor of English <i>Ph.D., Princeton University</i>	<b>Roy C. Macridis</b> Lawrence A. Wien Professor of International Cooperation <i>Ph.D., Harvard University</i>	<b>Leslie Ann McArthur</b> Professor of Psychology <i>Ph.D., Yale University</i>	<b>Marilyn Mobley</b> Assistant Professor of English and American Literature <i>Ph.D., Case Western Reserve University</i>	<b>Gloria Naylor</b> Fannie Hurst Visiting Professor of English <i>M.A., Yale University</i>	<b>Sharon Olds</b> Fannie Hurst Visiting Professor of English and American Literature <i>Ph.D., Columbia University</i>
<b>Irwin B. Levitan</b> Professor of Biochemistry <i>Ph.D., McGill University</i>	<b>Michael Macy</b> Assistant Professor of Sociology <i>Ph.D., Harvard University</i>	<b>Desmond McCarthy</b> Lecturer in University Studies <i>B.A., Framingham State College</i>	<b>Edgardo Moctezuma y Coronado</b> Lecturer in Spanish <i>M.A., Princeton University</i>	<b>Edgardo Moctezuma y Coronado</b> Lecturer in Spanish <i>M.A., Princeton University</i>	<b>James D. Oleson</b> Associate Professor of Music <i>B.A., University of Chicago</i>
<b>Avigdor Levy</b> Associate Professor of Near Eastern and Judaic Studies <i>Ph.D., Harvard University</i>	<b>Robert J. Maeda</b> Professor of Fine Arts <i>Ph.D., Harvard University</i>	<b>Rachel McCulloch</b> Professor of International Finance <i>Ph.D., University of Chicago</i>	<b>Paul H. Monsky</b> Professor of Mathematics <i>Ph.D., University of Chicago</i>	<b>Michael James Newman</b> Assistant Professor of Biochemistry <i>Ph.D., Harvard University</i>	<b>Richard J. Onorato</b> Associate Professor of English <i>Ph.D., Harvard University</i>
<b>Nancy Levy-Konesky</b> Lecturer in Spanish <i>M.A., American University</i>	<b>Harry Mairson</b> Assistant Professor of Computer Science <i>Ph.D., Stanford University</i>	<b>Colquitt Meacham</b> Adjunct Professor of Legal Studies <i>L.L.M., Harvard University</i>	<b>Robert O. Moody, Jr.**</b> Associate Professor of Theater Arts <i>Ph.D., Harvard University</i>	<b>Bruria Nevo-Hacohen</b> Lecturer in Hebrew <i>M.A., Hebrew College</i>	<b>On leave Fall Term 1987-88*</b>
<b>Arthur Lewbel</b> Assistant Professor of Economics and Dana Faculty Fellow <i>Ph.D., Massachusetts Institute of Technology</i>	<b>Joan M. Maling</b> Professor of Linguistics <i>Ph.D., Massachusetts Institute of Technology</i>	<b>Sarah Mead*</b> Artist-in-Residence (Music) <i>M.A., Stanford University</i>	<b>Charles W. Moore</b> Professor of Theater Arts <i>M.F.A., Yale University</i>	<b>Alfred Nisonoff</b> Professor of Biology and Rosenthal Basic Medical Sciences Research Center <i>Ph.D., The Johns Hopkins University</i>	<b>On leave Spring Term 1987-88**</b>
<b>Johanna Liander</b> Lecturer in Spanish <i>M.A., Harvard University</i>	<b>David Marc</b> Assistant Professor of Cinematography (American Studies) <i>Ph.D., University of Iowa</i>	<b>R. Shep Melnick**</b> Associate Professor of Politics <i>Ph.D., Harvard University</i>	<b>Joan L. Nissman**</b> Assistant Professor of Fine Arts <i>Ph.D., Columbia University</i>	<b>On leave 1987-88***</b>	

<b>Julio Ortega</b> Professor of Latin American and Comparative Literature and Director, Latin American Studies Program <i>Doctorate, Catholic University of Peru</i>	<b>Hillard Pouney***</b> Assistant Professor of African and Afro- American Studies <i>Ph.D., Massachusetts Institute of Technology</i>	<b>Jehuda Reinharz***</b> Richard Koret Professor of Modern Jewish History and Director, Tauber Institute <i>Ph.D., Brandeis University '72</i>	<b>Robert Rosenblum</b> Adjunct Associate Professor of Legal Studies <i>Ph.D., University of Colorado</i>	<b>Howard J. Schnitzer</b> Professor of Physics <i>Ph.D., University of Rochester</i>	<b>Takahiro Shiota***</b> Assistant Professor of Mathematics <i>Ph.D., Harvard University</i>
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*Ph.D., Brandeis University, Heller Graduate School '65*

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*Ed.D., Harvard University*

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*L.L.B., Boston University*

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Assistant Professor  
*Ph.D., Brandeis University, Heller Graduate School '81*

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Associate Dean and Lester and Alfred Morse Professor of Urban Studies  
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Lecturer and Senior Research Associate  
*Ph.D., Massachusetts Institute of Technology*

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Adjunct Lecturer  
*L.L.B., Harvard University*

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*Ph.D., University of Chicago*

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Adjunct Assistant Professor  
*Ph.D., Yale University*

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Adjunct Lecturer  
*Ed.D., Boston University*

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Adjunct Lecturer  
*Ph.D., Brandeis University, Heller Graduate School '55*

**Jeffrey Protas**  
Adjunct Lecturer and Senior Research Associate  
*Ph.D., Massachusetts Institute of Technology*

**David Rosenblum**  
Adjunct Lecturer  
*Ph.D., Massachusetts Institute of Technology*

**Stephen Rosenthal**  
Adjunct Lecturer  
*Ph.D., University of California, Berkeley*

**James H. Schulz**  
Ida and Meyer Kirstein Professor for Planning and Administration of Aging Policy  
*Ph.D., Yale University*

**Donald Simons**  
Adjunct Lecturer  
*Ph.D., University of Wisconsin*

**Freya Sonenstein**  
Lecturer and Senior Research Associate  
*Ph.D., Boston University*

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David R. Pokross  
Professor of Law and Social Policy  
*Ph.D., Massachusetts Institute of Technology*

**George Swick**  
Adjunct Lecturer  
*B.A., Dartmouth College*

**Saul Touster**  
Adjunct Professor  
*J.D., Harvard University*

**Stanley S. Wallack\*\*\***  
Lecturer and Senior Research Associate  
*Ph.D., Washington University*

**Richard Weber**  
Adjunct Lecturer  
*Ed.D., Harvard University*

**Irving Kenneth Zola**  
Adjunct Professor  
*Ph.D., Harvard University*

**Walter Leutz**  
Senior Research Associate  
*Ph.D., Brandeis University, Heller Graduate School '51*

**Bruce Spitz**  
Senior Research Associate  
*B.A., Michigan State University*

**Stephen Rosenthal**  
Adjunct Lecturer  
*Ph.D., University of California, Berkeley*

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Senior Research/Administrator Associate  
*M.Sc., University of Massachusetts*

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*Ph.D., Harvard University*

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Senior Research Associate  
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Senior Research Associate and Director, Program Assistance  
*M.F.S., Yale University*

**Leonard Gruenberg**  
Senior Research Associate  
*Ph.D., Boston University*

**Nahum Norbert Glatzer**  
Professor of Jewish History and Social Ethics  
*Ph.D., University of Frankfurt*

**Sidney Golden**  
Professor of Chemistry  
*Ph.D., Harvard University*

**William M. Goldsmith**  
Associate Professor of American Studies  
*Ph.D., Columbia University*

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Professor of Mediterranean Studies  
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**Nahum Norbert Glatzer**  
Professor of Jewish History and Social Ethics  
*Ph.D., University of Frankfurt*

**Sidney Golden**  
Professor of Chemistry  
*Ph.D., Harvard University*

**William M. Goldsmith**  
Associate Professor of American Studies  
*Ph.D., Columbia University*

**Cyrus H. Gordon**  
Professor of Mediterranean Studies  
*Ph.D., University of Pennsylvania*

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## Correspondence Directory

Brandeis University +15 South Street Waltham, Massachusetts 02254-9110 617-736-2000 <b>TTY/TDD</b> 617-736-3009	<b>Graduate School</b> Admission and Financial Aid Information Dean, Graduate School of Arts and Sciences Rabb 104 617-736-3410	<b>Alumni Relations</b> Vice President for Alumni Relations Bernstein-Marcus 617-736-4100
<b>Admission to Undergraduate College</b> Dean of Admissions Kutz 217 617-736-3500	<b>Admission to the Heller School and Financial Aid Information</b> The Heller School Heller Building 617-736-3800	<b>General Information</b> Vice President for Communications and Public Relations Gryzmish 116 617-736-4212
<b>Scholarship Applications (Undergraduates)</b> Director of Financial Aid Kutz 121 617-736-3700	<b>Summer Program</b> Director of Continuing Studies Ford/Sydenian 108 617-736-3424	



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